

Hanse-Wissenschaftskolleg
Institute for Advanced Study

Fiction ∫ *Science*
MEETS

THE WORLD OF SCIENCE
UNDER THE LITERARY MICROSCOPE
2014 CONFERENCE

NOVEMBER 19 – 21, 2014

Organizers: Susan M. Gaines / Fiction Meets Science Directors
(Universities of Bremen and Oldenburg)



VolkswagenStiftung



Universität Bremen



Venues

Hanse-Wissenschaftskolleg
Institute for Advanced Study
Lehmkuhlenbusch 4
27753 Delmenhorst
Germany
www.h-w-k.de

Kulturhaus Stadtwaage
Langenstr. 13
28195 Bremen
Germany

Program

CONTENTS

INFORMATION

AGENDA

ABSTRACTS

PARTICIPANTS

INFORMATION

BACKGROUND

The last few decades have seen a shift in the way that literature engages with the natural sciences and an increase in the numbers of new works of serious fiction that explore scientific issues and make use of scientific knowledge. In 2014, the Fiction Meets Science (FMS) program was officially launched with funding from the Volkswagen Foundation “Key Issues for Academia and Society” initiative and a mandate to explore the literary and social ramifications of this cultural trend in the coming years. At the 2014 FMS conference, scholars, novelists, and scientists from around Europe, North America and Australia gather to discuss what their investigations of the contemporary literature of science—its creation, texts, reception, and context—are revealing about scientific practice and institutions, the nature of scientific knowledge, and the societies that drive and are driven by that knowledge.

ABOUT THE VENUES

Kulturhaus Stadtwaage (*Langenstr. 13, Bremen*) The Bremen Stadtwaage was built around the corner from Bremen’s central market place in the mid-sixteenth century. Until well into the eighteenth century, it housed the standardized scales where merchants and tradesmen could weigh their goods, as well as the city council’s grain reserves. Most of the building was destroyed during WWII, but it was reconstructed with funding from Sparkasse Bremen and now serves as a cultural center.

Hanse-Wissenschaftskolleg, Institute for Advanced Study (HWK, *Lehmkuhlenbusch 4, Delmenhorst*). The HWK invites scholars and scientists from around the world to work as visiting fellows for several months on individual or group research projects in the marine sciences, neuro- and cognitive sciences, social sciences, or energy research. Fellows live at the Institute, where they have access to laboratories and the opportunity to collaborate with colleagues at the surrounding research institutions. The HWK is the focal point of the FMS fellowship program, which supports the creation of new science novels by providing fellowships for selected writers and introducing them to members of the region's scientific community.

PARTICIPATION

Guests are welcome, but should register in advance, as space is limited. There is no registration or conference fee.

THANKS TO OUR FMS PARTNERS!

We would like to thank our partners at the **University of Guelph** in Canada and the **University of Manchester** in the UK for their help in financing attendance at FMS events.

AGENDA

Wednesday, November 19

Bremen Stadtwaage

18:00 – 20:00 **Writer and philosopher Rebecca Goldstein discusses**
Properties of Light: A Novel of Love, Betrayal, and
Quantum Physics
with Natalie Roxburgh and Klaus Mecke

Thursday, November 20

Hanse-Wissenschaftskolleg, Delmenhorst

SESSION I

**THE DRIVERS AND THE DRIVEN: WHAT CONTEMPORARY
LITERATURE REVEALS ABOUT SCIENCE IN SOCIETY**

Session Chair 1: Martin Willis

- 9:15** **Welcome, Announcements**
- 9:30** **1. Introduction and Background**
Uwe Schimank for the Drivers and Driven volume editorial board
- 10:05** **2. How the Science Novelist Domesticates Science: The
Essential Role of Scientist Characters**
Natalie Roxburgh, Susan M. Gaines
- 10:45** **3. The Scientist at Risk: Challenging the Paradigms as
Occupational Hazard**
Roslynn Haynes, Raymond Haynes
- 11:25** **BREAK**
- 11:45** **4. Objects of Scientific Inquiry: Ethics, Responsibility, and
Choice in Marianne Borouch's Poetry Collection *Cadaver,
Speak***
Julia Boll
- 12:20** **Discussion of 2-4**
Pippa Goldschmidt, Jay Clayton
- 13:10** **LUNCH (HWK Bistro)**

Session Chair 2: Jürgen Rullkötter

- 14:25** **5. Unruly Creatures, Obstinate Things—Bio-Objects and Scientific Knowledge Production in Contemporary Science Novels**
Karin Hoepker, Antje Kley
- 15:05** **6. Speculative Fiction and the Social and Literary Significance of Plausibility: Debating the Dystopian Science in Margaret Atwood's *Oryx and Crake***
Emanuel Herold, Anna Auguscik, Sina Farzin, Anton Kirchhofer
- 15:40** **Discussion of 5 - 6**
Joan Haran, David Kirby
- 16:20** **BREAK**
- 16:50** **7. Are the perceptions of science changing in recent literature? A pilot study**
Luz María Hernández, Peter Weingart
- 17:30** **8. Macro-level problems, micro-level solutions? The reception of Barbara Kingsolver's *Flight Behavior* in reviews and reading groups**
Sonja Fückler, Anton Kirchhofer, Anna Auguscik, Uwe Schimank
- 18:05** **Discussion Of 7 - 8**
Jürgen Rullkötter, Sylvia Mayer
- 18:45** **DINNER** (HWK Bistro/Lobby)
- 20:00 ~ 21:30** **Nightcaps**
Master of Ceremonies: Pippa Goldschmidt
Members of the FMS Book Clubs and Scientists Network mix up a scientific literary cocktail

Friday, November 21

Hanse-Wissenschaftskolleg, Delmenhorst

SESSION II

SCIENCE IN FICTION: FORM AND MEANING

Session Chair 3: Don Bruce

- 9:30** **Announcements**
- 9:35** **1. The Americanization of *La Planète des Singes*: Science, Religion and *Planet of the Apes***
Amy C. Chambers

- 10:05** **Discussion**
Jeanne Cortiel
- 10:25** **2. The Importance of Being Funny: Ian McEwan's *Solar* and the Problem of Satirizing Science**
Katrin Berndt
- 10:55** **Discussion**
Aura Heydenreich
- 11:15** **BREAK**
- 11:35** **3. Mathematicians, Mysteries and Mental Illnesses: The Stage-to-Screen Adaptation of *Proof***
Jennifer Henke, Norbert Schaffeld, Kati Voigt
- 12:05** **Discussion**
Rebecca Goldstein
- 12:25** **4. The *Poiesis* of Science and Literary Form: on Reading and Re-reading Margaret Atwood's *Cat's Eye***
Janine Rogers
- 12:50** **LUNCH**
Session Chair 4: Laura Otis
- 14:05** **5. Literary strategies in the science novel: maneuvering the reader between fact, authenticity, and fiction**
Uwe Spörl
- 14:30** **6. Narrative and the Anxious Scientist Character of the Contemporary Neuronovel**
Anton Kirchhofer, Natalie Roxburgh
- 15:05** **Discussion of 4 - 6**
Julika Griem, Giovanni Frazzetto
- 15:55** **BREAK**
- 16:25** **7. Science into Fiction: Novelists on Why and How**
Moderator: Roslynn Haynes
Panel: Rebecca Goldstein, Pippa Goldschmidt, Bernhard Kegel, Susan M. Gaines
- 17:55** **Break**
- 18:05** **8. Science and Visual Arts: A Different Kind of Dialog?**
Moderator: Sina Farzin
Panel: Simone Rödder, Friedrich von Borries, Laura Reichwald
- 19:35** **DINNER (HWK Bistro)**

ABSTRACTS

Thursday, November 20

10:05

2. How the Science Novelist Domesticates Science: The Essential Role of Scientist Characters

Natalie Roxburgh, Susan M. Gaines

Scientific knowledge and the practices and people that produce it often seem unapproachable and alien to those sectors of the population not directly involved. However, some contemporary novelists are taking on the task of domesticating the alien and exploring the nexus between science and other societal sectors, whether political, economic, or social. They approach science like any other subject, transforming its impenetrable practices and knowledge into a topic for conversation in kitchens and living rooms — something that can be interrogated, argued with, and even, at times, comprehended. This domestication of science and the stories it engenders depend, in large part, on the creation and development of multi-dimensional scientist characters that move freely in and out of the scientific sector.

Combining the readings of a literary scholar and a novelist—with one eye to literary form and techniques of analysis, the other to how and why a story is constructed—we examine four exemplary novels. Conceived as a study of a geochemist's relationship to the natural world and experiment with scientific research as plot, Gaines's own *Carbon Dreams* (2001) takes readers into the mind of a character who thinks in the iconographic language of chemistry: domestication began with the need to simulate her thoughts *and* render them comprehensible. It allowed readers to experience science as an uncertain process of questioning and observing, rather than as a static collection of information. As the character of Tina began to interact with characters beyond the scientific sector, it also facilitated, even demanded, an exposé of what happens to the uncertainty inherent to scientific inquiry outside of the scientific community. The author thus found herself confronted with new opportunities: the scientific plot became entangled with an extra-scientific love affair, and the resulting story is, among other things, about the unpredictable ways that one bit of scientific knowledge both generates and mitigates societal risks, and the muddle of media, economics, and individual scientists that determines our perceptions of risk.

The novels selected all feature multi-faceted, empathetic scientist characters, but they use different narrative perspectives, deal with different disciplines, and employ different strategies for domesticating science. Barbara Kingsolver's *Flight Behavior* (2012) is told from the perspective of an uneducated farm wife who, along with the reader, is led into critical thinking about butterfly ecology and climate change by a sympathetic secondary scientist character. In Ann Patchett's *State of Wonder* (2011), a pharmaceutical industry biochemist investigates a colleague who has flouted academic

and industrial scientific institutions to develop a drug in the Amazonian jungle, illuminating the interplay between for-profit science, markets, regulation, and ethics. In *Mendel's Dwarf*, a geneticist talks directly, and in a condescending manner, to a scientifically naïve reader, telling two interwoven stories of genetics research: one about a contemporary scientist driven by personal and societal factors, and the other about Gregor Mendel's engagement in a purely scientific inquiry that had huge social and political repercussions.

These novels tell intertwined stories of characters coming into new scientific, political, social, and self knowledge—stories that, we argue, illuminate facets of the complex interactions and feedbacks between scientific and other societal sectors precisely because they personalize them so effectively.

10:45

3. The Scientist at Risk: Challenging the Paradigms as Occupational Hazard

Roslynn Haynes, Raymond Haynes

Scientists are often perceived as indirect co-producers of societal risk through their production and dissemination of scientific knowledge and the weight given to this particular form of cognition. However, it is important to note that scientists are themselves part of the society on which their work impacts and are therefore affected by the same issues. Moreover, the career paths of scientists may involve them in additional, specific elements of risk on a number of fronts—physical, ethical, intellectual and professional. It is not surprising therefore that such potential dangers to scientist characters play a significant role in the narratives, characterization and metaphorical elements of science novels. Here we will consider just one of these elements—the intellectual danger of mental distress or, in its more extreme form, madness arising from challenging the prevailing scientific paradigm.

In contrast to the depiction of the stereotypical scientist in previous centuries as mad and evil, the scientist in recent science novels who is afflicted with mental health issues is no longer condemned or satirized; rather, his 'madness' is treated as an intriguing aspect of the science he pursues with such dedication, distinguishing him from non-initiates and even, at times, aligning him with the tradition of the 'holy fool'. The effects of such mental illness ('madness') on both the protagonist and other characters become an integral part of the characterization of the scientist figure.

The scientist's 'madness' may arise from factors unrelated to the discipline—e.g. heredity or a contracted illness—but is then exacerbated by an obsessive focus on research. This was the case with the mathematician John Forbes Nash, subject of Sylvia Nasar's biography *A Beautiful Mind* (1998), who exhibited symptoms of severe schizophrenic behavior in his early thirties.

More usually the novelist is interested in examining the scientist's mental instability as intimately linked to obsession with his or her research. This is often associated with desire for recognition by peers and, equally, extreme frustration and disappointment when this recognition is withheld or is awarded to others. Such frustration, suffered by most people at some time, is felt more intensely by the obsessive scientist, who has no other interests or values to mitigate his disappointment and it is perceived to be the

factor that tips him over the edge into madness.

By presenting an understanding of this process the novelist mitigates our judgement of these characters, distinguishing them from their stereotypical ancestors.

In this paper we will focus specifically on the risk to the fictional scientist's mental state with particular reference to two novels, Tom Petsinis's *The French Mathematician* (1998) and Rebecca Goldstein's *Properties of Lights* (2000), and passing reference to other texts.

11:45

4. Objects of Scientific Inquiry: Ethics, Responsibility, and Choice in Marianne Borouch's Poetry Collection *Cadaver, Speak*

Julia Boll

In Marianne Borouch's poetry collection *Cadaver, Speak* (2010/2014), the object of scientific study is the body of an old woman in a dissection lab. The collection traces how the medical students try to imagine the lives and voices of the bodies they study, and it also imagines a voice for the object of study, turning it back into a subject. The poems also stress that scientific progress is not in fact a goal in and of itself, but that it has to be defined by the necessity of taking on responsibility towards the Other. The focus of this paper is the question of ethics in the context of responsibility and choice, the acknowledgement and denial of humanity, the recognition of the object of scientific inquiry, and how literature interrogates these matters. Drawing on Borouch's collection as well as on Emily Ballou's *Darwin Poems* (2009) and on Kelly Oliver's theory of an ethics based on witnessing, I will show how contemporary literature explores the possibility of giving voice to and hearing the object of scientific enquiry and how questions of ethical responsibility towards society and humanity are addressed.

14:25

5. Unruly Creatures, Obstinate Things—Bio-Objects and Scientific Knowledge Production in Contemporary Science Novels

Karin Hoepker , Antje Kley

Our paper investigates how contemporary science novels imagine and address processes of scientific knowledge production. These fictional texts feature laboratory settings and scientist characters as part of their social microcosms; they engage with and extrapolate scientific developments as well as the fears and hopes we might have for their consequences. Curiously, within these texts the objects of scientific study and discovery themselves, be they animate or inanimate, oftentimes become protagonists in their own right—and it is this particular phenomenon, this imagined acquisition of degrees of agency that our paper focuses on. What do these narratives imply regarding the traditional roles of subject and object in scientific inquiry? What notions of scientific knowledge production do such novels propose, and what do these fictional scenarios suggest regarding possible triggers for this apparent revolt of objects? And how does literature, as a source of a very different kind of knowledge, position itself in relation to

its own scientific subject matter?

Adopting the theoretical framework of an actor-network-approach, we offer a reading of three very different novels which are paradigmatic for a bandwidth of science novels since the 1990s. Michael Crichton's *Jurassic Park* (1990), Greg Bear's *Darwin's Radio* (1999), and Richard Power's *Generosity* (2009) all feature scientist characters and their objects (be they lab-sprung dinosaurs, retroviruses, or a "happiness gene" going viral) in narratives of outbreak. Not only do they discuss consequences of various scientific developments for general society but they also depict scientific knowledge production itself as economically entangled, complexly mediated, and, above all, deeply social.

Our readings will analyze how the novels, which may otherwise take very different ideological stances, all envision moments where orders of knowledge change and our anthropocentric paradigm becomes visibly precarious. As various mechanisms of control and institutional containment fail within these narratives, the novels question the role of the inquiring human subject at the heart of science's enlightenment genealogy.

15:05

6. Speculative Fiction and the Social and Literary Significance of Plausibility: Debating the Dystopian Science in Margaret Atwood's *Oryx and Crake*

Anna Auguscik, Sina Farzin, Emanuel Herold, Anton Kirchhofer

In her *MaddAddam* trilogy, Margaret Atwood projects a dystopian social world that is deeply pervaded by both the needs and the products of privatized biotechnological research. Using actual biotechnological research as a starting point, she extrapolates the social consequences of biogenetic research in a society that has become 100% marketized. Atwood claims that her speculative account bears a specific relationship to contemporary scientific and technological developments. Writing in the *The Guardian* in 2011, she said the following: "For me, 'speculative fiction' means plots that descend from Jules Verne's books about submarines and balloon travel and such—things that really could happen but just hadn't completely happened when the authors wrote the books." Atwood emphasizes the plausibility of the scientific elements in the trilogy by disseminating a series of references and commentaries on the science via blogs, twitter, interviews and essays.

Focusing on the first part of the trilogy, *Oryx and Crake*, this paper considers Atwood's published self-descriptions as a writer of speculative fiction in the context of her literary text, on the one hand, and the public discussion of her novel in general, literary, and scientific review media on the other.

We first discuss what aspects of contemporary biotechnological research and practice are taken up and extrapolated in the novel. Using the prominent example of genetically modified food, we show how these elements contribute both to the characterization of the novel as a dystopian text, and to its plausibility as a diagnostic assessment of current societal risks and developments. In the second part of the paper, we ask how the sustained, wide-ranging critical attention the novel has received

addresses these aspects. Using review articles from scientific journals, leading newspapers and review media, as well as academic criticism, we analyze how the critics' diverse positions and backgrounds relate to their views on the diagnostic value of Atwood's dystopian science.

By combining our literary and sociological expertise and interests, we hope to be able to gauge the impact that Atwood's fiction, autobiographical commentary, literary criticism, and writing on literary genre has had on public debates about biotechnology. Our analysis will shed light on the role that the author's discursive presence plays in a novel's potential to contribute to wider public debate and allow us to differentiate this potential impact according to different contexts of reception and specific topics of debate (e.g. assessments of progress, effects, and social implications of biotechnological research; economic contexts for the practice of science and financial exploitation of its applications; privatization of scientific research).

16:50

7. Are the perceptions of science changing in recent literature? A pilot study

Luz María Hernández Nieto, Peter Weingart

Current conceptualizations of the relationship between science and society emphasize the increasing importance of scientific knowledge in modern society. In daily life, scientific knowledge is acquiring a more prominent role than religious belief or traditional knowledge. For example, scientific knowledge plays an important role in enhancing the trustworthiness and credibility of politicians, who are likely to resort to scientific research to legitimize their decisions. And publicity commercials employ the purported results of scientific studies, institutions, and scientists to persuade their audiences. This suggests that trust in scientific knowledge, i.e. *the authority of science*, is deeply rooted in modern societies.

In spite of this, and perhaps paradoxically, there is a concern within the scientific community that trust in science is eroding. Fears of this erosion, which could easily translate into a loss of autonomy or resources, has haunted the scientific community since the 1970s, if not earlier. This is reflected in the numerous initiatives that scientists and science policy makers have fashioned with the aims of improving the image of science among the general public (e.g. the Public Understanding of Science movement), assessing public attitudes toward science (e.g. opinion polls) and engaging the public with science and science policy (e.g. PEST).

We take this contradiction as a starting point and look at recent changes in the scientific community's perception of its place in society and civil society's changing expectations of science. Our initial question is if and how changes in these perceptions and expectations are reflected in contemporary fiction about science. Among other things, we examine if and how the contradiction between trust in science and challenges to science—between the authority of science on the one hand, and its erosion on the other—emerges in novels about science and how it is shaped. Under what conditions is trust in scientists or scientific institutions and knowledge acquired, lost, or questioned? What role do different kinds of institutional and government regulation play in the novels? Is trust or mistrust, autonomy or regulation attributed to individuals or to

institutions? What are the consequences of loss of trust or blind trust in science within the context of the story? How is the relationship between science and other societal spheres represented? Is science portrayed as a closed and isolated entity, or as an open and accessible field in constant exchange with other societal spheres? How are those exchanges described, and how do they influence the attribution of trust in the novel? Which place in society is attributed to science: an unquestioned authority, a source of trustworthy knowledge, a detached elite, or a group of socially responsible citizens?

17:30

8. Macro-level problems, micro-level solutions? The reception of Barbara Kingsolver's *Flight Behavior* in reviews and reading groups

Sonja Fücker, Anton Kirchhofer, Anna Auguscik, Uwe Schimank

Combining literary and sociological studies, we examine the fictional representation of science in relation to contemporary societal risk-production and impacts on social transformation processes in Barbara Kingsolver's *Flight Behavior* (2012), which focuses on the climate change debate in the United States. We analyze how it portrays the involvement of science in the production, detection, and mitigation of societal risks resulting from climate change, and how these fictional portrayals of science as a co-producer, detector, and mitigator of societal risks are picked up in two spheres of literary reception—in review media and in reading groups.

Flight Behavior has not yet become the subject of academic literary criticism, but it has received a substantial degree of attention in the review media. In its representation of the public debate on climate change, the scientific account is cast as true, but largely powerless and ineffective beyond the scientific sphere—until the novel's protagonist improvises ways to promote social acceptance of the scientific diagnosis. The novel largely sidelines the question of how climate change is caused, and the existence of the risk is uncontroversial and authoritatively asserted as a scientific fact. Science is cast as a detector of societal risk, but it is prevented from playing its role as a mitigator of risk—at least at the macro level of society—by antagonistic factors such as religion, social milieu, inaccurate media coverage, neglect in school education, and, to a much lesser extent, economic interests. By contrast, the remedies that the novel suggests are situated at the micro-level: this is manifested in the focus on the heroine's personal development, which is linked to a series of individual and creative solutions for effective communication of the scientific truth about climate change.

This analysis of the novel provides the background for our examination of interpretation processes for the novel's portrayals of risk in reading groups and in general and scientific media. Employing the first results from analysis of an English-speaking reading group's discussion of *Flight Behavior*, we will show how literature can serve as a translation tool for acquiring scientific knowledge and, thus, as a facilitator for processes of social awareness on climate change. With respect to the reception and evaluation of the novel in public and critical discourse, it appears that literary and general reviewers tend to focus on the heroine's situation and development, while remaining ambivalent about what they perceive as the didactic purpose of the novel. By contrast, scientific reviewers pay far greater and more detailed attention to the specific

difficulties of effectively communicating scientific risk perception, as well as to the societal risks potentially resulting from this. In concluding, we will discuss the potential implications of these preliminary observations.

Friday, November 21

9:35

1. The Americanization of *La Planète des Singes*: Science, Religion and *Planet of the Apes*

Amy C. Chambers

One of the 'best-known works in all of American popular culture' was adapted from a 1963 philosophically orientated French novel. Pierre Boulle's novel *La Planète des Singes* uses what Boulle referred to as 'a natural oddity in evolution' to frame his allegorical critique of French involvement in Indochina but the American film version, *Planet of the Apes* (Schaffner, 1968), bears no trace of this allegorical content. I will show in this paper how substantial elements of *La Planète des Singes* were changed in order to 'Americanize' the contents, foreground a clash between science and religion, and frame the film within the anti-authoritarian zeitgeist. The transition from novel to screen was not straightforward. Hollywood producer Arthur P. Jacobs purchased the rights for the novel soon after publication in 1963, and the screenwriter Rod Serling began the task of adapting the French Colonial satire into an American science fiction film, but budgetary issues and studio concerns about a film with talking apes delayed production for several years. Serling's screenplay began the process of stripping away the novel's allegorical colonial element and replacing it with a narrative focused on science and religion. The film *Planet of the Apes* uses science and religion as both distinct and culturally intertwined narrative components to frame a culturally relevant discussion of US society. The science of evolution was used as a narrative frame in the novel, and was retained in the early stages of adaptation, but concerns over cost and reception perceptibly altered this in later incarnations. When Michael Wilson took over as screenwriter in 1966 the science-based content deteriorated in specificity and religious elements flourished, taking on a dominant visual and rhetorical role. Yet despite the increased religious imagery, few reviews made note of the film's religiosity; instead it was the simplified evolution narrative and its implications that caught the attention of commentators. Evolution as a theme and narrative device in the novel and later religion in the film allowed for the discussion of socio-political issues and a satirical treatment of contemporary French and, in the adaptation, American culture.

10:25

2. The Importance of Being Funny: Ian McEwan's *Solar* (2010) and the Problem of Satirizing Science

Katrin Berndt

One of the most prominent science novels, Ian McEwan's *Solar* (2010) is also an example for the various forms of humor used in contemporary fiction to portray the world of scientific research. My talk will introduce the text's comic strategies, among them irony, parody, slapstick, and the grotesque, and examine how they contribute to characterizing the protagonist, as well as the political debates and scientific themes of *Solar*. I will argue that McEwan pursues a two-fold objective: he employs humor to depict the world of science as familiar and accessible, but he also satirizes a research culture that is dominated by morally flawed characters who revere status and money more than innovation. My discussion will show that while "being funny" is an important means for introducing scientific debates to a wider audience, the problem with satirizing science is that such depiction raises doubts about scientists' credibility, and about their ability to assume responsibility for the results of their actions.

11:35

3. Mathematicians, Mysteries, and Mental Illnesses: The Stage-to-Screen Adaptation of *Proof*

Jennifer Henke, Norbert Schaffeld, Kati Voigt

Mathematics has always been a source of mystery, at least for the uninitiated. Although Roslynn Haynes argues for "the recent demise of the 'mad' [...] scientist," the mentally instable mathematician, for instance, still seems to be a popular topic among authors and filmmakers. This triangular relationship involving mathematics, mystery and mental illness is central to David Auburn's math play *Proof* (2000) and John Madden's eponymous screen adaptation (2005). The aim of our talk is to investigate why and how these three dimensions are interlinked by focusing on a dialogue between our chosen texts and their contexts. Methodologically, this paper thus moves within the broader field of intertextuality. Our theoretical framework is based on Michail Bakhtin's concept of the chronotope, a term borrowed from mathematics or rather Einstein's theory of relativity, and then transferred to literary criticism. With Bakhtin we argue that in both play and film representations of time and space are inseparable and that their meaningful connection prompts a highly significant reading.

From hindsight the proof of a mathematical theorem about Germain primes, named after Marie-Sophie Germain (1776-1831), a French mathematician who successfully surmounted existing prejudices against her gender, marks one semantic level of the title and thus paves the way to a particular historical chronotope. Interestingly, Catherine, the heroine, likewise has to fight for her credibility as a female mathematician within a male dominated sphere, but primarily in terms of her mental stability and thus capability of performing high mathematics. Play and film take a critical stance when they introduce mathematics as a discipline which can to all appearance only operate under the discursive auspices of a male math campus. Yet, although the mathematical

proof is one of the central aspects the plot revolves around, mathematics is only now and again hinted at and this too contributes to its mysterious appeal.

The mysteries that this paper intends to address cover at least three closely interrelated chronotopes. It is with an informed sense of the title's semantic range that Auburn's math play as well as Madden's film version confront the audience with a few brain-teaser puzzles. They latter encompass the nature of the mathematical proof, the question of female authorship, and the reliability of the heroine's friend. While the actual proof of a mathematical theorem about prime numbers is not explained, the question whether or not this is Catherine's achievement and not her father's is key issue here. The protagonist finally has to rely on the trustworthiness of her new friend Hal and the discursive acceptance of the mathematics community he is part of. Play and film no doubt endorse the view that mathematics and its agents are deeply mysterious, but the two narratives are not alike in the readings they seem to suggest. Varying character configurations, the often unexpected juxtaposition of real or mental performance spaces, the inbuilt rivalry between the domestic and the academic terrain, and the different chronotopic frames, all contribute to what can be called a media-related understanding of the heroine's claim to authenticity in the face of a predominantly male math circle.

Mental illness is not only a major theme of both play and cinematic adaptation—it also constitutes one of the aforementioned mysteries of the plot. What this paper seeks to further investigate are the following questions: What effect does mental illness or madness have in the context of narratives about math and its representatives? What are the mental conditions of *Proof's* protagonists and (how) do they differ? What role do gender and madness play in terms of Catherine's credibility and mathematical agency? Does math serve as a link between ingenuity and mental instability? One focus shall rest on the construction of mental spaces or inner performance spaces within the play and film. Following Bachtin's concept we shall first examine the specific meaning of various chronotopes within the two texts. Second, we will consider references to other narratives, genres, historical mathematicians and psychiatric discourses. The overall aim of this paper is to shed light on *Proof's* culturally constructed relation between mathematicians, mysteries, and mental illnesses.

12:25

4. The *Poiesis* of Science and Literary Form: on Reading and Re-reading Margaret Atwood's *Cat's Eye*

Janine Rogers

In Margaret Atwood's large and complex novel *Cat's Eye* we see several formal structures of science—atomic structure, space-time, the insect colony, the collection—connected with literary and artistic forms. Moving beyond mere analogy, the scientific forms *inform* the textual poetics, creating a *poiesis* of literature and science in combination. As an act of creation, *poiesis* is cosmological at its core: this is one of its primary links to scientific thought. Reading is *poiesis*, a “making of the text into something of use” (OED). Reading—reading through literary form, especially—gives us the opportunity to practice that shared practice of poetic “making” between literature

and science. This kind of cosmological thinking—the intellectual work of (re-)creating the world in microcosms of human knowledge—is aesthetically driven in both science and literature. Therefore, sensory knowledge and the idea of what is beautiful are often expressed as essential parts of what is known or understood: for example, the idea of an elegant theorem. In this paper I will explore this idea of readerly poiesis through *Cat's Eye*, a novel that is about reading and reading as a form of world-making. The analysis will focus on a specific scientific concept—the superorganism—as a model for art, knowledge-making, and interpretation. The superorganism is itself a form, and thus can be aligned with literary form, but in doing so the concept of the superorganism also interrogates the function of form in the process of creating meaning. Atwood's novel demonstrates how form creates knowledge through poiesis, particularly in the work of the (re-)reader who, in revisiting the textual structure, re-creates it.

14:05

5. Literary strategies in the science novel: maneuvering the reader between fact, authenticity, and fiction

Uwe Spörl

One of the things that distinguishes science novels from most novels traditionally categorized as science fiction is that they attempt, to varying degrees and in different aspects of the narrative, some portrayal of science as it exists or has existed. This is why scientists who read such novels may appreciate them as authentic, and why laypeople often have the impression they are learning something about the world of science. But science novels are, like all novels, literary and fictional artworks. In this presentation, I take a first look at the relationships between the scientific aspects of these novels (with knowledge and truth as norms) and their literary, narrative and aesthetic strategies (with aesthetic pleasure as aim). Here I concentrate on how specific literary strategies guide the reader's interpretation of a novel's scientific aspects, using the work of Bernhard Kegel, a pioneer of the science novel in Germany, as my primary test case and example.

All texts work on the premise that readers have some degree of common knowledge—in this case, implicit, everyday knowledge about science as well as literature—that can be exploited to help shape how they read and understand the novel. The plot of Bernhard Kegel's novel *Das Ölschieferskelett* (*The Oil Shale Skeleton*), for example, depends on time travel, a common plot device in science fiction that no reader would confuse with realistic science. At the same time, there are many hints that the descriptions of the Eocene world the characters land in is an accurate rendition of what paleontologists know—from the description of the author's scientific background on the book jacket, to the realistic portrayal of the scientist main character and the setting in the Messel Pit, a well-known paleontological site. Readers are thus able to distinguish the realistic from the entirely fictional in the novel's scientific elements, enjoying the twist and turns of the adventure story at the same time that they gain some sense of earth history and paleontology. In Kegel's *Ein tiefer Fall* (*A Profound Fall*), a story of scientific fraud is framed as a classic crime story, and the reader understands this from the murder at the very beginning of the story. The police investigator needs scientific

information to solve the case, and this information is built into the novel's plot. When the scientist protagonist gives the investigator an exposé on some relevant aspects of marine biology, the reader trusts it is the real thing. Likewise, the descriptions of everyday scientific life in a real institute in the real city of Kiel read as authentic. But we are left to wonder about the plausibility of the novel's fraud. And, while enjoying the thrill of the mystery story, we would not expect to walk into a laboratory in Kiel and find blood and glass on the floor. I will elucidate these and other specific literary strategies that have been used to inform the reader's experience of science in novels about science.

14:30

6. Narrative and the Anxious Scientist Character of the Contemporary Neuronovel

Anton Kirchhofer, Natalie Roxburgh

Critics have used the terms “neuronarrative” or “neuronovel” to discuss recent novels that ask questions about human cognition by borrowing from research in the cognitive sciences. While it may be too early to decide if we are currently witnessing the rise of a new subgenre in fiction, the claim is worth testing by way of inquiring about the shared features and concerns of this body of novels. In analysing David Lodge's *Thinks...*, Ian McEwan's *Saturday*, and Richard Powers's *The Echo Maker*, we note shared features: a central cognitive scientist character who also functions as a focalizer and who, remarkably, falls victim to a great, existential anxiety in the course of the novel; a multifaceted emphasis on how narrative works that tends to give these works of fiction a metanarrative quality; and a way of simultaneously evoking and distancing themselves from the “two cultures” confrontation in its classical or more antagonistic versions. Through these structural features, more recent neuronovels reposition narrative in a way that complicates the notion that it belongs solely to the humanities. In these texts, narrative production is cast as a universal component of human brain functioning, and therefore the novels self-reflexively examine what this might mean for the cognitive scientist. While storytelling may not be part of science, it is nonetheless part of the scientist. This ultimately offers a space for talking about the role of narrative, which lies outside the territory controlled and defended by either of the “two cultures.”

PARTICIPANTS

Anna Auguscik is a lecturer at the Institute of English and American Studies at the University of Oldenburg, where she recently completed a dissertation on the role of literary prizes and book reviewing for the literary marketplace *Prizing Debate in Literary Interaction: The Fourth Decade of the Booker Prize and the Contemporary Novel in the UK*. As an FMS research fellow in the project group “Reception: Readers and Media,” she is working on the critical and public reception of contemporary science novels.

Katrin Berndt is a research fellow in the Fiction Meets Science project group “Text: Structures and Strategies” in the Department for English-Speaking Cultures at the University of Bremen. Her monographs include *Female Identity in Contemporary Zimbabwean Fiction* (Eckhard Breiting, 2005), *Yoko Ono—In Her Own Write* (Tectum Verlag 1999), and *Friendship and the Formation of the British Novel from 1760 to 1830* (forthcoming 2015). Berndt has published extensively on postcolonial literatures, popular culture, and the eighteenth-century novel; with Lena Steveker, she co-edited the essay collection *Heroism in the Harry Potter Series* (Ashgate 2011).

Julia Boll is a Marie-Curie fellow at the University of Konstanz’s Zukunftskolleg and contributor to the FMS project group “Interpretation: Societal Context.” Dr. Boll has spoken or published on the relation between New War theory and contemporary plays on war, the horror trope of the “final girl” and female characters in war narratives, grief and pornography, the current state of Scottish theatre, the figure of the homo sacer on stage, and on questions of ethics in recent depictions of science in literature. She is the author of *The New War Plays* (Palgrave 2013).

Stephan Bornholdt’s work focuses on the ways in which simple elementary forces and constituents interact to generate complex systems and processes—life, evolution, brains, genomes, immune systems, societies—and is inherently interdisciplinary. He is a professor of physics and leader of the Complex Systems Lab in the Institute for Theoretical Physics at the University of Bremen.

Friedrich von Borries is an architect and a writer of both fiction and non-fiction about the intersections between design and changing social and physical environments. He holds the Professorship of Design Theory and Curatorial Practice at the University of Fine Arts in Hamburg and is a research fellow at Goldsmiths College in London, as well as a member of the Junge Akademie of the Berlin- Brandenburgische Akademie der Wissenschaften and the Deutsche Akademie für Naturforscher Leopoldina. He directs the DFG-sponsored research project “Urban Interventions” and the “Projektbüro Friedrich von Borries,” whose activities include urban development, art and design. His most recent books include a novel, *RLF: Das richtige Leben im falschen* and a collection of imagined scenarios for surviving climate change, *Klimakapseln: Überlebensbedingungen in der Katastrophe*.

Dorothea Brückner is a zoologist and ecologist specialized in apidology, the neurobiology of honeybees, and the behavior of social insects. She heads the Honeybee Research Institute at the University of Bremen and is a fellow of the Royal Entomological Society in London. Prof. Brückner is interested in comparisons of the cognitive function of humans in art and science, and has worked extensively with the artist Bärbel Rothhaar. She is currently a member of the FMS Scientists Network.

Donald Bruce's research has focused on the interface between nineteenth-century literature and science, digital applications in the humanities, and cultural theory. He has recently begun research for a historical novel about Antoine Lavoisier inspired by a 1788 painting by Jean-Louis David that hangs in the Metropolitan Museum of Art. He is Professor of French and Dean of the College of Arts at the University of Guelph in Canada, and an FMS partner.

Amy C. Chambers is a postdoctoral researcher at the University of Manchester, working on the Wellcome Trust funded project "Playing God: Exploring the Interactions among the Biosciences, Religion, and Entertainment Media." Her doctoral thesis theorised the use of fictional film as a historical primary source with in-depth analysis of science fiction films released between 1967-1977. Currently, she is investigating how mainstream Christian religious communities influenced, responded to, and appropriated science-based cinema in the post-classical Hollywood period, working on a book titled "From Star Child To Star Wars: American Science (Fiction), Film, and Religion 1967-1977".

Jay Clayton is the William R. Kenan, Jr. Professor of English and Director of the Curb Center for Art, Enterprise, and Public Policy at Vanderbilt University in the U.S. He is author or editor of seven books and numerous articles and chapters, and recipient of fellowships from the Guggenheim Foundation, the American Council of Learned Societies, and elsewhere. His scholarship has ranged from Romantic poetry and the Victorian novel to contemporary American literature, film and digital media, science and literature, and medicine, health, and society. *Charles Dickens in Cyberspace: The Afterlife of the Nineteenth Century in Postmodern Culture*, focused on the depiction of computers, information technology, and cyborgs from the Victorian era to the twenty-first century. His recent work has concentrated on the ethical, social, and cultural issues raised by genomics.

Jeanne Cortiel holds a Professorship for American Studies at the University of Bayreuth. Her research and teaching focus on discontinuities and processes of transformation in American culture, with a particular emphasis on the interactions between literature and popular culture. She is the author of *Demand My Writing: Joanna Russ, Feminism, Science Fiction* (1999) and co-editor of *Religion in the United States* (2011), among other works. One of her current projects focuses on new technologies (i.e. nano- and biotechnology) and the theoretical debate around the question of interdisciplinarity.

Folkert Degenring holds a doctoral degree in English Literature from the University of Mannheim, where his dissertation was on identity in the postmodern British novel, and has worked as a researcher and lecturer at the Universities of Kassel and Mannheim.

Christoph Falkenroth studied musicology, philosophy and medieval German at in Freiburg i.Br. Following graduation, he worked as a freelance research writer, journalist and multimedia author. In 1996/97 he completed his training as a scriptwriter at the “International Filmschool Cologne”. For twelve years he wrote and adapted screenplays of various genres for German TV, spent six years as board member of VDD (German Writers Guild), and is member of the German Television Academy. From 2008 until 2013 he was project coordinator at MINTiFF, a research project at Technical University Berlin, which dealt with "STEM and Equal Opportunities in TV drama formats". Since 2013 he is board member at the "Foundation for STEM Entertainment Education Excellence".

Sina Farzin is a Junior Professor for Social Theory in the Institute for Sociology at the University of Hamburg, and a contributor to the FMS project group “Interpretation: Social Context.” She did her Master’s theses in German literature and in sociology, and received her Ph.D. in sociology from the Bremen International Graduate School of Social Sciences. From 2009-2012 she worked as a Research Associate at the Institute for Empirical and Applied Sociology at the University of Bremen.

Giovanni Frazzetto holds a Ph.D. in molecular biology, and was the 2008 joint-recipient of the John Kendrew Young Scientist Award. His transdisciplinary research focuses on behavioral neuroscience and on its societal and cultural implications. He is a founding member of the European Neuroscience and Society Network, and has been a fellow of the ICI Berlin Institute for Cultural Inquiry. Currently, he is the Academic Coordinator of the College for Life Sciences at the Wissenschaftskolleg zu Berlin, where he was a fellow in 2007. A passionate reader, Dr. Frazzetto also enjoys writing poems, stories and learning foreign languages. His book on the neuroscience of emotions, *How We Feel*, was among *The Guardian Best Books of Psychology* in 2013

Sonja Fückler is an FMS research fellow at the University of Bremen in the “Reception: Media and Readers” project group. Her interests include qualitative research in cultural sociology and the sociology of knowledge. She has a degree in sociology and is currently completing her dissertation at the Free University Berlin on the cultural principles of common knowledge production and the phenomenon of “forgiveness” in spheres of social conflict.

Susan M. Gaines was a fellow at the HWK from 2002-2004, and is now “Writer in Residence” at the University of Bremen, where she initiated the FMS program. She did graduate work in organic chemistry at Scripps Institution of Oceanography, before abandoning the laboratory for literary pursuits. Her short stories have appeared in

numerous literary magazines and anthologies. Her novel *Carbon Dreams* was an experiment with science in literary fiction, and her book, *Echoes of Life: What Fossil Molecules Reveal about Earth History* was an experiment with narrative and literary prose in the factual presentation of scientific results.

Anja Goetze studied English and American literature and Philosophy at the University of Bremen. She is currently preparing a Ph.D. project proposal with the working title "Representations of Scientific Misconduct in German and English Science Novels from 1990 – 2015."

Pippa Goldschmidt is the FMS Writer in Residence at the HWK for 2014-21015. She holds a PhD in astronomy and has worked as an astronomer at Imperial College, as well as in outer space policy for the civil service. A graduate of the Masters course in creative writing at the University of Glasgow, she was the recipient of the Scottish Book Trust/Creative Scotland New Writers Award, and her 2013 novel, *The Falling Sky*, was shortlisted for the Dundee International Book Prize.

Rebecca Goldstein holds a Ph.D. in philosophy of science, and her many works of fiction and non-fiction are informed by this interest. She is the author of ten books, most recently, the novel *36 Arguments for the Existence of God: A Work of Fiction*, a hilarious and heartrending story built around the grand debate between faith and reason, American style; and a popular philosophy book, *Plato at the Googleplex: Why Philosophy Won't Go Away* (2014), which uses the art of fiction to explore the relevance of Plato's dialogues in the twenty-first century. Dr. Goldstein's many honors include a Guggenheim Fellowship and a MacArthur Foundation "Genius Grant."

Yael Goldstein Love is a novelist, short story writer, essayist, book reviewer, writing instructor and editor, and co-founder of Plympton, Inc, a literary studio and electronic publishing platform for serialized fiction. What her novel *The Passion of Tasha Darsky* (published by Broadway Books on old fashioned paper in 2008), does with music bears some similarities to what many of the FMS novels do with science.

Julika Griem is professor of English Literature at the Goethe University in Frankfurt. She has published on the two cultures, scientific thrillers and the anthropological and poetological functions of simian characters in fiction and film. Her current research interests include seriality, literature and space, theories of crime fiction, literary sociologies, the contemporary and figurations of the whole.

Joan Haran is an Honorary Research Fellow in the School of Social Sciences at Cardiff University in the UK. She co-authored *Human Cloning in the Media: From Science Fiction to Science Practice* (Routledge 2008). Her research interests include gender, technoscience and representation, and critical and everyday utopias. She is currently working on a monograph, *Genomic Fictions: Genes, Gender and Genre* and, jointly with Dr Ildney Cavalcanti of the Federal University of Alagoas, Maceio, Brazil, a Portuguese /

English bilingual anthology of utopian and science fiction dealing with gender and science.

Raymond Haynes is a member of the FMS scientists network. He worked as an astrophysicist and science communicator at CSIRO (Australia's national science agency) for over thirty years. His research papers, books, and popular science articles have dealt with fields as diverse as low-frequency radio astronomy, molecules in the Milky Way and other galaxies, supernova remnants, the role of magnetic fields in the evolution of galaxies, and the role of scientists in today's society. Professor Haynes is a Fellow of the Australian Institute of Physics and the Astronomical Society of Australia, and a Member of the International Astronomical Union.

Roslynn Haynes is a Fellow of the Australian Academy of the Humanities. She holds degrees in Biochemistry and literature and has long been interested in the interface and cross-influences between science, literature, art, and landscapes. Her monographs include *From Faust to Strangelove: Representations of the Scientist in Western Literature* (Johns Hopkins Univ. Press, 1994), *Seeking the Centre: The Australian Desert in Literature, Art and Film* (Cambridge University Press, 1998), *Tasmanian Visions: Landscapes in Writing Art and Photography* (Polymath Press 2006) and *Desert: Nature and Culture* (Reaktion Press, 2013). She is Honorary Associate Professor in the School of the Arts and Media, University of New South Wales, Honorary Fellow of the School of Humanities, University of Tasmania, and FMS Visiting Fellow at the University of Bremen and the Hanse-Wissenschaftskolleg.

Jennifer Henke is an FMS research fellow and lecturer in the Faculty of Linguistics and Literary Studies of at the University of Bremen, where she recently finished her dissertation in the doctoral group "Textuality of Film." She co-edited the anthology *Hollywood Reloaded—Genrewandel und Medienerfahrung nach der Jahrtausendwende* (Schüren 2013) and is the author of the monograph *Unsex Me Here—Gender und Raum im zeitgenössischen Shakespeare-Film* (Wissenschaftlicher Verlag Trier 2014).

Luz María Hernández is an FMS research fellow at the University of Bremen. She holds a degree in visual communication from the Autonomous University of San Luis Potosi in Mexico, and a master's degree in Interdisciplinary Media Studies from Bielefeld University, where she recently completed her doctoral thesis on the representation of science in animated series for children. Her research interests include science depictions in popular culture, public perceptions of science, scientific communication, mass media genres, animation, comic, film, television series and publicity.

Emanuel Herold finished his master studies in social theory at the University of Jena and is currently working on his Ph.D. at the University of Bremen in the FMS project group "Interpretation: Societal Context." His interests include the philosophy and history of science, science and technology studies, and sociological theory in general. He

is currently focused on utopian and dystopian narratives as modes of reflecting the technification of modern societies.

Tania Hershman is the author of two story collections: *My Mother Was An Upright Piano: Fictions* (Tangent Books, 2012), and *The White Road and Other Stories* (Salt, 2008; commended, 2009 Orange Award for New Writers). Tania is a Royal Literary Fund fellow at the faculties of science at Bristol University and is studying for a PhD in Creative Writing at Bath Spa University exploring the intersection between fiction, poetry and particle physics. She is co-writer and editor of *Writing Short Stories: A Writers' & Artists' Companion* (Bloomsbury, 2014). www.taniahershman.com

Aura Heydenreich is an assistant professor in the Department of German Literature and Comparative Studies at the FAU Erlangen-Nürnberg, where she is the scientific coordinator of the Emerging Field Project ELINAS (Erlangen Center for Literature and Natural Science), which provides the disciplines of physics and philology a forum for research into the cultural specificity of scientific language, the analysis of the ethics and rhetoric of scientific argumentation, and reflections on the cultural significance of natural scientific and literary scholarship. Aura Heydenreich is a member of the *German Physics Society* (DPG) and of the SLSA. She is co-author, with Klaus Mecke of *Quarks and Letters: Naturwissenschaften in der Literatur und Kultur der Gegenwart* (2015) and *Physics and Literature: Theory—Popularization-- Aestheticization* (2015).

Karin Hoepker is assistant professor of North American Studies at the FAU Erlangen-Nürnberg. Her book *No Maps for these Territories: Cities, Spaces, and Archaeologies of the Future in William Gibson* was published with Rodopi in 2011. Her fields of research include the contemporary TV-series, the history of the novel, and the intersection of science and literature. As a member of the Emerging Fields Initiative “Bio-Objects and Bio-Subjects” at the FAU she works on processes of knowledge production in literature and the life sciences. Her current book project in progress is *The Edge of Reason: Fiction, Risk, and Probability in Antebellum Literary Narrative*.

Bernhard Kegel was the first FMS Writer in Residence at the HWK in 2013, when he began his research for both a novel and a work of non-fiction at the Leibniz Center for Tropical Marine Ecology, an FMS partner. He holds a doctorate in biology and is the author of three popular science books and five novels, most recently *Tier in der Stadt*, about Berlin's wild animals, and the mystery novel, *Ein tiefer Fall*, a story of deep sea microbiology and scientific misconduct. The recipient of numerous awards for his writing, including the Brandenburgischer Literaturpreis Umwelt, and the Inge und Werner Grüter-Preis für Wissenschaftspublizistik, Dr. Kegel is a founding member of the FMS Novelists Network.

David A. Kirby was a practicing evolutionary geneticist before leaving bench science to become Senior Lecturer in Science Communication Studies at the University of Manchester. Several of his publications address the relationship between cinema, biotechnology and cultural meanings. His book *Lab Coats in Hollywood: Science,*

Scientists and Cinema examines collaborations between scientists and the entertainment industry. He recently received a Wellcome Trust Investigator Award to analyse the interactions among the biosciences, religion and fiction. His current book project (*Indecent Science: Religion, Science and Movie Censorship, 1930-1968*) will explore how movies served as a battleground over science's role in influencing morality.

Anton Kirchhofer's research interests and areas of publication include the media and the cultural settings and discursive environment of literature; literary theory and its relation with literary production; and the connections between modernity, literature and secularity, and between literature and science. His doctoral thesis was on passion and sex in the eighteenth-century English novel, and his Habilitation thesis dealt with literary criticism in the nineteenth-century periodical market. He is Professor of English Literature at the University of Oldenburg, and one of the founding directors of FMS.

Antje Kley is chair of American Literary Studies at the FAU Erlangen-Nürnberg. Her book publications include *Das 'erlesene Selbst' in der autobiographischen Schrift: Politik und Poetik der Selbstreflexion bei Roth, Delany, Lorde und Kingston* (2001), *Ethik medialer Repräsentation im britischen und US-amerikanischen Roman, 1741-2000* (2009), and *Ethik—Anerkennung—Gerechtigkeit: Philosophische, literarische und gesellschaftliche Perspektiven* (2011, co-edited). Within the scope of two integrated research projects, she is currently working on discourses of presence and implicit knowledge as well as knowledge landscapes at the intersection of biotechnology, the media, and society. For further information see: <http://www.americanstudies.phil.uni-erlangen.de/faculty/kley.html>

Michaela Koch is Lecturer in Anglophone Literary and Cultural Studies at the University of Oldenburg, where she is working on a Ph.D. thesis titled "Intersex Narratives and the Binary Order of the Sexes."

Nikola Kompa holds the professorship for Theoretical Philosophy at the Institute of Philosophy, University of Osnabrueck/Germany. She works on a variety of topics within the field of theoretical philosophy, with a clear focus on issues pertaining to linguistic meaning and interpretation on the one hand, and epistemic justification and knowledge on the other.

Christian Lassen teaches English literature and British cultural studies at the University of Oldenburg. Dr. Lassen's research interests include queer studies, gender studies and contemporary literature.

Sylvia Mayer is professor of American Literature at the University of Bayreuth. Her major fields of research are ecocriticism and African American literature. Her publications include monographs on Toni Morrison's novels and on the environmental ethical dimension of nineteenth-century New England regionalist writing. She has edited and coedited several volumes of criticism, among them *The Anticipation of Catastrophe: Environmental Risk in North American Literature and Culture* (with

Alexa Weik von Mossner, 2014). Her current research focuses on the Anglophone climate change novel and on environmental risk fiction across media.

Klaus Mecke is chair of Theoretical Physics at the FAU Erlangen-Nürnberg. He studied physics and philosophy in Darmstadt and München (PhD 1994) and was a research assistant in Austin, Boston, Wuppertal and Stuttgart. He worked on statistical physics of fluids and biological systems and developed geometric methods for material science, image analysis and astronomy (see <http://theorie1.physik.uni-erlangen.de>). His current project focuses on space-time models based on finite projective geometries. An important part of his recent activities is the cultural context of physics research and the reciprocal transfer of knowledge between physics and literature. Together with Aura Heydenreich he founded the interdisciplinary Research Center for Literature and Natural Science (ELINAS; see <http://elinas.fau.de>).

Christine Müller recently completed her Master's degree in the Department of English-Speaking Cultures and started a doctoral thesis project with the FMS group at the University of Bremen.

Laura Otis holds degrees in biochemistry and neuroscience, and worked in labs for eight years before completing her PhD in Comparative Literature. Her research concerns the ways that scientific and literary thinking interact, memory, identity formation, and communication technologies. Her publications include *Müller's Lab* (Oxford, 2007) and *Networking: Communicating with Bodies and Machines in the Nineteenth Century* (Michigan, 2001). She is Professor of English at Emory University in Atlanta, Georgia USA and a frequent guest scholar at the MPI for the History of Science in Berlin.

Hans-Jörg Rheinberger is an Emeritus Scientific Member of the Max Planck Society for the History of Science in Berlin, where he served as Director from 1997 to 2014. He studied philosophy and biology, earning his Ph.D. in biology and his habilitation in molecular biology, but his research since the 1990s has focused on the history and epistemology of experimentation in the life sciences. Professor Rheinberger is honorary professor at the Institute for Philosophy and History of Science of the Technical University Berlin, and doctor and *honoris causa* at the Swiss Federal Institute of Technology in Zurich; he is a member of the Berlin-Brandenburg Academy of Sciences and of the German Academy of Sciences Leopoldina.

Laura Reichwald studies fine arts with a specialization in film and digital cinema at the University of Fine Arts, Hamburg. She has a degree in media technology from the University of Applied Sciences, Hamburg, and has worked freelance in film, TV and the fine arts since 2012. In 2014, she was a guest artist in the working group "Theoretical Meteorology" at the University of Hamburg's Cluster of Excellence "Integrated Climate System Analysis and Prediction" (CliSAP).

Simone Rödder holds a post-doctoral position in the Institute for Sociology at the University of Hamburg. She leads the Understanding Science in Interaction Group in

the cluster of excellence "Integrated Climate System Analysis and Prediction" (CliSAP). Her research emphases are sociology of science, governance of science and technology, science and climate communication, and the theory and practice of science journalism.

Janine Rogers is Professor of Medieval and Sixteenth-Century Literature in the Department of English Literatures at Mount Allison University in New Brunswick, Canada. She specializes in interdisciplinary approaches to literature and is the author of two monographs: *Eagle* (Reaktion Press, 2014) and *Unified Fields: Science and Literary Form* (McGill-Queen's University Press, 2014). She is the organizer of the Online Teaching Resource Page for the British Society of Literature and Science. Her current research is on the intellectual heritage of medieval manuscript culture in the history of science.

Andrea Rothman was a postdoctoral fellow and subsequent research associate at the prestigious Rockefeller University in New York, where she studied the neurobiology of olfaction. She recently earned her MFA in writing at Vermont College of Fine Arts, and is a reader for the literary journal *Hunger Mountain*. Her fiction has appeared in *Ducts*, *FutureCycle Press*, *Lablit*, and *Cleaver Magazine*. She is at work on her first novel.

Natalie Roxburgh's research focuses on the relationship between the formal development of the novel and developments in other forms of knowledge. She writes on eighteenth-century fiction, as well as on science and scientist characters in contemporary fiction. Natalie completed her PhD in English Literature in 2011 at Rutgers University (USA) and currently holds an FMS post-doctoral position at the University of Oldenburg.

Jürgen Rullkötter is professor emeritus of organic geochemistry at the University of Oldenburg and an active member of the Gulf of Mexico Research Initiative Research Board. His work has focused on the molecular make-up of fossil organic matter and its application to understanding petroleum formation, as well as microbial transformations in natural oil seeps and anthropogenic oil spills, and to reconstructing ancient environments and climates. He became interested in science novels after reading *Das Ölschieferskelett* and *Carbon Dreams*, and is a founding member of the FMS Scientists Network.

Norbert Schaffeld studied English literature, history, and philosophy in Germany and England. His interests include British literature, Shakespeare adaptations, Australian and Canadian culture, film studies, the historical novel, and fictional representations of the natural sciences and of history. He holds the Chair of English Literature at the University of Bremen, where he is one of the founding directors of FMS, as well as of the Bremen Institute of Canada and Québec Studies (BICQS).

Uwe Schimank is interested in general sociological theory and, in particular, in theories of modern society. His past work includes empirical studies in organizational sociology, governance research, science and higher education studies, and economic

sociology. He is Professor of Sociological Theory at the University of Bremen, where he is one of the founding directors of FMS, as well as a member of the “Communicative Figuration” Creative Unit.

Cornelia Soetbeer heads the team that manages the Volkswagen Foundation’s “Challenges for Academia and Society” funding initiative and is a member of Member of the international scientific board of the *Fondation Maison Suger* in Paris. She holds a a Master’s degree in Romance and German Philology and a PhD in Romance Philology.

Uwe Spörl’s research interests include narrative theory, hermeneutics and literary theory, metafiction, the literature of classical modernism, and the crime novel. He is the author of the *Basislexikon Literaturwissenschaft* (2004) and has published in numerous fields, including the relationship between knowledge and literature, modes of literary perception, space and order, mysticism in modern literature, and the reception of classical antiquity in modern literature. He is a Senior Lecturer in modern German literature and Dean of Studies at the University of Bremen, and a contributor to the FMS project group “Text: Structures and Strategies.”

Kati Voigt is working on a doctoral thesis titled “The Science in Time Fantasies for Children and Young Adults” in the Institute of English Studies at the University of Leipzig. She holds degrees in English and Mathematics.

Peter Weingart has published widely on science policy, science advice in the political sphere, the interaction between science and the media, science communication, and cultural representations of science. He is Professor Emeritus of Sociology, Sociology of Science and Science Policy and former director of the Center for Interdisciplinary Research as well as the Institute for Science and Technology Studies at the University of Bielefeld, as well as a member of the Berlin-Brandenburg Academy of Sciences and the Academy of Engineering Sciences (acatech). He is the managing editor of the *Sociology of the Sciences Yearbook* and editor-in-chief of *Minerva*. Currently, he holds a post as an FMS research professor at the University of Bremen.

Martin Willis holds a Chair of Professor in Science, Literature and Communication in the Department of English at the University of Westminster and a Senior Lectureship (Consultant) at Cardiff Medical School. His works include the award-winning *Vision, Science and Literature, 1870-1920* (2011), as well as *Mesmerists, Monsters, and Machines* (2007), *Repositioning Victorian Sciences* (2007), and *Victorian Literary Mesmerism* (2006). He has just completed the *Reader's Guide to Essential Criticism in Literature and Science* for Palgrave Macmillan (due for publication in December 2014). Martin is also a founding committee member of the British Society for Literature and Science, editor of the *Journal of Literature and Science* and director of the Research Centre for the Study of Science and Imagination.

<p>Auguscik, Anna, Dr. Institute of English and American Studies Carl von Ossietzky University Oldenburg, GERMANY E-mail: anna.auguscik@uni-oldenburg.de</p>	<p>Bauer, Werner, Dr. CiSAP/CEN University of Hamburg Hamburg, GERMANY E-mail: werner.bauer@zmaw.de</p>
<p>Berndt, Katrin, Dr. FB 10, English Speaking Cultures University of Bremen Bremen, GERMANY E-mail: kaberndt@uni-bremen.de</p>	<p>Boll, Julia, Dr. University of Konstanz Konstanz, GERMANY E-mail: j.boll@uni-konstanz.de</p>
<p>Bornholdt, Stefan, Prof. Dr. University of Bremen Bremen, GERMANY E-mail: bornholdt@itp.uni-bremen.de</p>	<p>Bruce, Don, Prof. Dr. University of Guelph Geulph, CANADA E-mail: don.bruce@uoguelph.ca</p>
<p>Brückner, Dorothe, Prof. Dr. FB 2, ZWK University of Bremen Bremen, GERMANY E-mail: dorothea.brueckner@uni-bremen.de</p>	<p>Chambers, Amy, Dr. University of Manchester Manchester, UNITED KINGDOM E-mail: amy.chambers@manchester.ac.uk</p>
<p>Clayton, Jay, Prof. Dr. Vanderbilt University Nashville, UNITED STATES E-mail: jay.clayton@vanderbilt.edu</p>	<p>Cortiel, Jeanne, Prof. Dr. Fakultät IV University of Bayreuth Bayreuth, GERMANY E-mail: jeanne.cortiel@uni-bayreuth.de</p>
<p>Degenring, Folkert, Dr. University of Kassel Kassel, GERMANY E-mail: folkertdegenring@uni-kassel.de</p>	<p>Falkenroth, Christoph, Dr. Stiftung für MINT-Entertainment-Education-Excellence Köln, GERMANY E-mail: falkenroth@minteee.org</p>
<p>Farzin, Sina, Jun. Prof. Dr. University of Hamburg Hamburg, GERMANY E-mail: sina.farzin@wiso.uni-hamburg.de</p>	<p>Frazzetto, Giovanni, Dr. Wissenschaftskolleg zu Berlin Berlin, GERMANY E-mail: frgi@wiko-berlin.de</p>
<p>Fücker, Sonja UNICOM University of Bremen Bremen, GERMANY E-mail: sonja.fuecker@uni-bremen.de</p>	<p>Gaines, Susan M., M.Sc. University of Bremen Bremen, GERMANY E-mail: smgaines@uni-bremen.de</p>
<p>Goldschmidt, Pippa, Dr. FMS Writer in Residence Hanse-Wissenschaftskolleg Delmenhorst, GERMANY (Edinburgh, UK) E-mail: pippagoldschmidt@hotmail.com</p>	<p>Goldstein, Rebecca, Dr. Boston MA UNITED STATES E-mail: rebegolds@gmail.com</p>

<p>Goldstein Love, Yael Cambridge, MA UNITED STATES <i>E-mail:</i> ygoldst@gmail.com</p>	<p>Görg, Carmelita, Prof. Dr. University of Bremen Bremen, GERMANY <i>E-mail:</i> cg@fb1.uni-bremen.de</p>
<p>Götze, Anja University of Bremen Bremen, GERMANY <i>E-mail:</i> agoetze@uni-brfemen.de</p>	<p>Griem, Julika, Prof. Dr. Institut für England- und Amerikastudien J. W. Goethe University Frankfurt, GERMANY <i>E-mail:</i> griem@em.uni-frankfurt.de</p>
<p>Haran, Joan, Dr. University of Cardiff Cardiff, UNITED KINGDOM <i>E-mail:</i> HaranJ@cardiff.ac.uk</p>	<p>Haynes, Roslynn, Prof. em. Dr. Hanse-Wissenschaftskolleg Delmenhorst, GERMANY <i>E-mail:</i> ros.haynes.tas@gmail.com</p>
<p>Haynes, Raymond, Prof. em. Dr. Hanse-Wissenschaftskolleg Delmenhorst, GERMANY <i>E-mail:</i> rhaynes.tas@gmail.com</p>	<p>Henke, Jennifer, Dr. FB 10, Linguistic and Literary Studies University of Bremen Bremen, GERMANY <i>E-mail:</i> j.henke@uni-bremen.de</p>
<p>Hernandez Nieto, Luz Maria University of Bremen Bremen, GERMANY <i>E-mail:</i> luzma@uni-bremen.de</p>	<p>Herold, Emanuel Institut für Soziologie University of Bremen Bremen, GERMANY <i>E-mail:</i> emherold@uni-bremen.de</p>
<p>Hershman, Tania Bath Spa University Bristol, UNITED KINGDOM <i>E-mail:</i> taniah@gmail.com</p>	<p>Heydenreich, Aura, Dr. Department of Germanistik und Komparatistik University of Erlangen-Nürnberg Erlangen, GERMANY <i>E-mail:</i> aura.heydenreich@fau.de</p>
<p>Höpker, Karin, Dr. Institut für Anglistik und Amerikanistik Friedrich-Alexander Universität Erlangen Erlangen, GERMANY <i>E-mail:</i> karin.hoepker@fau.de</p>	<p>Jung, Christian, Dr. Volkswagen Stiftung GERMANY <i>E-mail:</i> Jung@volkswagenstiftung.de</p>
<p>Kegel, Bernhard, Dr. Berlin, GERMANY <i>E-mail:</i> kegel@snaflu.de</p>	<p>Kirby, David, Dr. Centre for the History Science, Technology and Med. University of Manchester Manchester, UNITED KINGDOM <i>E-mail:</i> David.Kirby@manchester.ac.uk</p>
<p>Kirchhofer, Anton, Prof. Dr. Institut für Anglistik/Amerikanistik Carl von Ossietzky University Oldenburg, GERMANY <i>E-mail:</i> anton.kirchhofer@uni-oldenburg.de</p>	<p>Kley, Antje, Prof. Dr. Institut für Anglistik und Amerikanistik University of Erlangen-Nürnberg Erlangen, GERMANY <i>E-mail:</i> antje.kley@fau.de</p>

<p>Koch, Michaela Institut für Anglistik und Amerikanistik Carl von Ossietzky University Oldenburg, GERMANY E-mail: michaela.koch@uni-oldenburg.de</p>	
<p>Kompa, Nicola, Prof. Dr. Institute of Philosophy University of Osnabrück Osnabrueck, GERMANY E-mail: nikola.kompa@uni-osnabrueck.de</p>	<p>Lassen, Christian, Dr. Institut für Anglistik und Amerikanistik Carl von Ossietzky University Oldenburg, GERMANY E-mail: christian.lassen@uni-oldenburg.de</p>
<p>Mayer, Sylvia, Prof. Dr. University of Bayreuth Bayreuth, GERMANY E-mail: sylvia.mayer@uni-bayreuth.de</p>	<p>Mecke, Klaus, Prof. Dr. Institut für Theoretische Physik University of Erlangen-Nürnberg Erlangen, GERMANY E-mail: klaus.mecke@physik.uni-erlangen.de</p>
<p>Müller, Christine FB 10, Sprach- und Literaturwissenschaften University of Bremen Bremen, GERMANY E-mail: christine.mueller@uni-bremen.de</p>	<p>Otis, Laura, Prof. Dr. Department of English Emory University Atlanta, UNITED STATES E-mail: lotis@emory.edu</p>
<p>Peralta, Carlos, Dr. Fraunhofer Institute IWES Oldenburg, GERMANY E-mail: carlos.peralta@uni-oldenburg.de</p>	<p>Reichwald, Laura University of fine Arts Hamburg Hamburg, GERMANY E-mail: laura.reichwald@gmail.com</p>
<p>Rheinberger, Hans-Jörg, Prof. em. Dr. Max-Planck-Institut für Wissenschaftsgeschichte Berlin, GERMANY E-mail: rheinbg@mpiwg-berlin.mpg.de</p>	<p>Rödder, Simone, Dr. University of Hamburg Hamburg, GERMANY E-mail: simone.roedder@uni-hamburg.de</p>
<p>Rogers, Janine, Prof. Dr. Mount Alison University New Brumswick, CANADA E-mail: jrogers@mta.ca</p>	<p>Rothman, Andrea, Dr. New York, UNITED STATES E-mail: rothmaa@gmail.com</p>
<p>Roxburgh, Natalie, Dr. Institut für Anglistik/Amerikanistik Carl von Ossietzky University Oldenburg, GERMANY E-mail: natalie.roxburgh@uni-oldenburg.de</p>	<p>Rullkötter, Jürgen, Prof. Dr. Inst. of Chemistry and Biology of Marine Environm. Carl von Ossietzky University Oldenburg, GERMANY E-mail: juergen.rullkoetter@uni-oldenburg.de</p>
<p>Schaffeld, Norbert, Prof. Dr. FB 10 University of Bremen Bremen, GERMANY E-mail: nsch@uni-bremen.de</p>	<p>Schaffeld, Barbara Lilienthal, GERMANY E-mail: barbara.schaffeld@web.de</p>

<p>Schimank, Uwe, Prof. Dr. Institut für Soziologie University of Bremen Bremen, GERMANY E-mail: schimank@uni-bremen.de</p>	<p>Soetbeer, Cornelia, Dr. Volkswagen Stiftung Hannover, GERMANY E-mail: wundenberg@volkswagenstiftung.de</p>
<p>Spörl, Uwe, Dr. University of Bremen Bremen, GERMANY E-mail: uwe.spoerl@uni-bremen.de</p>	<p>Stone, Jana University of Bremen Bremen, GERMANY E-mail: jstone@marum.de</p>
<p>Voigt, Kati University of Leibzig Leibzig, GERMANY E-mail: kati.voigt@uni-leipzig.de</p>	<p>von Borries, Friedrich, Dr. Hochschule für bildende Künste Hamburg, GERMANY E-mail: friedrich.borries@hfbk-hamburg.de</p>
<p>Weingart, Peter, Prof em. Dr. University of Bielefeld Bielefeld, GERMANY E-mail: weingart@uni-bielefeld.de</p>	<p>Willis, Martin, Prof. Dr. University of Westminster London, UNITED KINGDOM E-mail: m.willis@westminster.ac.uk</p>