

The cultures of Nanotechnologies and (Un)Sustainability: Seminar with projectwork on a future art exhibition (Projektseminar)

wöchentlich | Montag | 18:15 - 19:45 | 05.11.2007 - 28.01.2008 | [C 12.13](#)

Studiengang	Gebiet	Modul/Fach	Semester	Bereich	CP	Prüfungsnr.
Berufliche Bildung in der Sozialpädagogik (B.A.)	Berufliche Fachrichtung Sozialpädagogik	10701000 Wissenschaft trägt Verantwortung. Nachhaltigkeit und Verantwortung in der Gesellschaft.	k.A.			10701007
Lehramt an Grund-, Haupt- und Realschulen (B.A.)	Professionalisierungsbereich - Pädagogik	10701000 Wissenschaft trägt Verantwortung. Nachhaltigkeit und Verantwortung in der Gesellschaft.	k.A.			10701007
Leuphana-Bachelor (B.A./B.Eng./B.Sc./LL.B.)	Leuphana-Semester B.)	10701000 Wissenschaft trägt Verantwortung. Nachhaltigkeit und Verantwortung in der Gesellschaft.	k.A.			10701007
Economics and Business Education - Wirtschaftspädagogik (B.A.)	Leuphana-Semester	10701000 Wissenschaft trägt Verantwortung. Nachhaltigkeit und Verantwortung in der Gesellschaft.	k.A.			10701007

Veranstaltungsdetails

**Maximale
Teilnehmerzahl:** 32

Inhalt: In an introductory phase, some basic notions of 'systems thinking' as a cornerstone for a cultural shift towards sustainability will be introduced with help of the highly effective experiential practice of playing 'systems thinking games'. The issue of the social responsibility of the artist will also be introduced. The third element to be surveyed will be the nanotechnologies as a new social, cultural and ethical question. The cultural sociologist Prof. Dr. Christian Papilloud will be invited to one session of the seminar and will share some insights from his latest research on nanotechnologies and society.

In the second half of the seminar, the students will work in smaller groups of 5-6 students. Each group will design a proposal for an art exhibition about nanotechnologies. This project work is a simulation but it links to a real project (currently still at an early conceptual stage) by Papilloud, Kagan and Ott for a science and art exhibition.

Each team will be asked to elaborate a distinct discourse and valuative/ethical statement, together with a basic exhibition concept and design. Each team will shortly present its exhibition design and its discourse at the final conference week ending the "Modul Verantwortung in der Gesellschaft".

Introductory sessions: 4 weeks

In the first 4 weeks of the Seminar, introductory sessions will be offered, with lectures by the teacher and by Prof. Dr. Christian Papilloud.

In these first 4 weeks, the students will also get to know each other and form groups of 5 students for the upcoming project work.

Referate sessions alongside the project work: 5 weeks

For the following 5 weeks, student presentations ('Referate') will be scheduled together with project work: Each session will start with two presentations ('Referate') of exactly 20 minutes each (each 'Referat' will be presented by 1, 2 or maximum 3 students). The remaining time of the session will be used to discuss the project work of each team of 5 students. Each team will have to tell how far they are in the process and room for questions and discussions will be available.

Possible topics for the 'Referate':

- Student presentations on issues of nanotechnologies... (max. 3 'Referate')
- Issues of social perceptions of and responses to emerging nanotechnologies (1 'Referat')
- specific science fiction books presentation and discussion (max. 2 or 3 'Referate')
- Posthumanism (1 'Referat')
- art, technology and science (1 'Referat')
- issues of nanotechnology and culture (cf. especially the Nanoculture book (1 'Referat')
- the NANO exhibition in UCLA (1 'Referat')
- Specific art and sustainability exhibitions: Beyond Green (+ BIOS4) (1 'Referat')
- Specific art and technology exhibitions Ohne Schnur (+ BIOS4) (1 'Referat')

Concluding sessions: 2 weeks

In the last 2 weeks of the Seminar, concluding sessions will be scheduled, focusing on the project work. In these sessions, the teams will present their results and receive critical comments from other groups (in preparation for the final “conference”).

See below ("Sonstiges") for the description of the project work...

Literatur: The literature is available most often in the Seminarapparat 054 or on myStudy (in "Material").

The following is an extensive literature list, i.e. you will have to select only some articles and books from this list by yourself for your own work (I will guide you through it) . The list is ordered by topics (your topics of interest will depend on your team's specific focus: see 'Sonstiges' below).

1) Sustainability References

General Sustainability references:

Günter Altner, “Ethical and methodical aspects of the concept of sustainability for academia's contribution to sustainability research”, in Eds Maik Adomssent et al., Higher Education for Sustainability: New challenges from a global perspective, VAS, 2006 (p. 67-78).
(Extract available in the Seminarordner)

Timothy O’Riordan, “The Precaution Principle in Environmental Management”, CSERGE Working Paper GEC 92-03, 1992.
(Available in the Seminarordner and on myStudy)

Joel Tickner, Carolyn Raffensperger and Nancy Myers, The precautionary principle in action: a handbook, Science and Environmental Health Network, 1st edition.
(Available in the Seminarordner and on myStudy)

European Environment Agency, Late lessons from early warnings: the precautionary principle 1896–2000, Environmental issue report No 22, Copenhagen, 2001.
(Available only on myStudy)

Per Sandin, Better Safe than Sorry: Applying Philosophical Methods to the Debate on Risk and the Precautionary Principle, Theses in Philosophy from the Royal Institute of Technology, Stockholm 2004. >further reading on the precautionary principle / only the introduction<
(introduction only, available only on myStudy)

Richard Slaughter, Futures beyond dystopia: creating social foresight, RoutledgeFalmer, 2003.
(Available in the Seminarapparat)

Jacques Ellul, *The technological society*, Vintage books, 2003.
(Available in the Seminarapparat)

On Posthumanism (and transhumanism):

Ed. Neil Badmington, *Posthumanism (Readers in Cultural Criticism)*, Palgrave Macmillan, 2002.
(Available in the Seminarapparat)

Joel Garreau, *Radical Evolution: The Promise and Peril of Enhancing Our Minds, Our Bodies -- and What It Means to Be Human*, Broadway; Reprint edition, 2006.
(Available in the Seminarapparat)

2) Nanotechnologies References

Introductory and general references:

Kristen Kulinowski, *Nanotechnology*, Rice University, 2003.
(Available in the Seminarordner and on myStudy)

Toby Shelley, *Nanotechnology : new promises, new dangers*, Zed Books, 2006.
(Available in the Seminarapparat)

Rosalyn W. Berne, *Nanotalk : conversations with scientists and engineers about ethics, meaning, and belief in the development of nanotechnology*, Lawrence Erlbaum, 2006.
(Available in the Seminarapparat)

David M. Berube, *Nano-hype : the truth behind the nanotechnology buzz*, Prometheus Books, 2006.
(Available in the Seminarapparat)

Alexander Huw Arnall, *Future Technologies, Today's Choices: Nanotechnology, Artificial Intelligence and Robotics; A technical, political and institutional map of emerging technologies*, report for the Greenpeace Environmental Trust, Imperial College London, University of London, 2003.
(Available in the Seminarordner -pp 1-41, 60-61- and on myStudy -full text-)

Stephen Wood , Richard Jones and Alison Geldart, *The Social and Economic Challenges of Nanotechnology*, Economic and Social Research Council, 2003.
(Available only on myStudy)

James Wilsdon, "The government must not become a naïve cheerleader", *The Edge*, 16, June 2004, Economic and Social Research Council, 2004.
(Available in the Seminarordner and on myStudy)

Sharon McCarter, “Specter of possible harm threatens nanotech development, experts say”, Eurekalert press release, 2006.
(Available in the Seminarordner and on myStudy)

Liz Kalaugher, “NanoJury gives its verdict”, nanotechnology and society, nanotechweb.org, 2005.
(Available in the Seminarordner and on myStudy)

Philip Ball, “2003: nanotechnology in the firing line”, nanotechnology and society, nanotechweb.org, 2003.
(Available only on myStudy)

See also...

<http://nanopedia.case.edu/NWPPage.php?page=home>

http://en.wikibooks.org/wiki/The_Opensource_Handbook_of_Nanoscience_and_Nanotechnology

References on nanotechnologies and society and perceptions of nanotechnologies:

Eds Davis Baird & Joachim Schummer, Special Issue: Nanotech Challenges, Part 1, HYLE--International Journal for Philosophy of Chemistry, Vol. 10, No.2 + corresponding issue in Techné: Research in Philosophy and Technology, (2004)
Available at: <http://www.hyle.org/journal/issues/10-2/index.html>

Eds Davis Baird & Joachim Schummer, Special Issue: Nanotech Challenges, Part 2, HYLE--International Journal for Philosophy of Chemistry, Vol. 11, No.1 + corresponding issue in Techné: Research in Philosophy and Technology, (2005)
Available at: <http://www.hyle.org/journal/issues/11-1/index.html>

Bruce V. Lewenstein, “Introduction—Nanotechnology and the Public”, Science Communication, 2005; 27; 169.
(Available in the Seminarordner and on myStudy)

Michael D. Cobb, “Framing Effects on Public Opinion about Nanotechnology”, Science Communication, 2005; 27; 221.
(Available in the Seminarordner and on myStudy)

Chul-Joo Lee, Dietram A. Scheufele and Bruce V. Lewenstein, “Public Attitudes toward Emerging Technologies: Examining the Interactive Effects of Cognitions and Affect on Public Attitudes toward Nanotechnology”, Science Communication, 2005; 27; 240.
(Available in the Seminarordner and on myStudy)

Phil Macnaghten, Matthew B. Kearnes and Brian Wynne, “Nanotechnology, Governance, and Public Deliberation: What Role for the Social Sciences?”, Science Communication, 2005; 27; 268.
(Available in the Seminarordner and on myStudy)

Susanna Hornig Priest, “Commentary—Room at the Bottom of Pandora's Box: Peril and Promise in Communicating Nanotechnology”, *Science Communication*, 2005; 27; 292.
(Available in the Seminarordner and on myStudy)

Jane Macoubrie, *Informed Public Perceptions of Nanotechnology and Trust in Government*, Project on Emerging Nanotechnologies, Woodrow Wilson International Center for Scholars, 2005. >NB: This is not main reading but further secondary reading material.<
(Available only on myStudy)

Anisa Mnyusiwalla et al., “Mind the gap': science and ethics in nanotechnology”, *Nanotechnology*, 14, 2003.
(Available in the Seminarordner and on myStudy)

Ingrid Ott and Christian Papilloud, “Converging institutions. Shaping the relationships between nanotechnologies, economy and society”, *Working Paper Series in Economics*, University of Lueneburg, 32, 2006.
(Available in the Seminarordner and at www.uni-lueneburg.de/vwl/papers)

See also...

<http://www.vivantinfo.com/index.php?id=137> (interesting article but in French language)

The “Visionary” (written by scientists but futuristic, imagining very long-term developments) and rather pro-nanotechnology references:

Eric Drexler and Christine Peterson, with Gayle Pergamit , *Unbounding the Future: the Nanotechnology Revolution*, William Morrow and Company, Inc., New York, 1991.:
(Available in the Seminarordner and on myStudy)

Eric Drexler, *Engines of Creation*, The coming era of nanotechnology: Full publication available online at: http://www.e-drexler.com/d/06/00/EOC/EOC_Table_of_Contents.html

See also discussions and articles at:
<http://www.kurzweilai.net/meme/frame.html?m=18>

Proponents of nanotechnologies:

Ted Sargent, *The dance of molecules : how nanotechnology is changing our lives*, Thunder's Mouth Press, 2006.
(Available in the Seminarapparat)

Sharon McCarter, “Nanotechnology provides 'green' path to environmentally sustainable economy”, *Eureka! press release*, 2007.
(Available in the Seminarordner and on myStudy)

Project on Emerging Nanotechnologies, “Nanotechnology: Consumers Must Be Convinced Benefits Outweigh Risks: Uncertainty will make nanotech a “hard sell””, news release, 2007.

(Available in the Seminarordner and on myStudy)

Alan Petersen, Alison Anderson, Stuart Allan and Clare Wilkinson, “Nanotechnology in the news”, nanotechnology and society, nanotechweb.org, 2006.

(Available online at: <http://nanotechweb.org/articles/society/5/1/1/1>)

Erin Court, Abdallah S. Daar, Elizabeth Martin, Tara Acharya, Peter A. Singer, “Will Prince Charles et al diminish the opportunities of developing countries in nanotechnology?”, nanotechnology and society, nanotechweb.org, 2004. +

Comment by Neil Sorensen

(Available in the Seminarordner and on myStudy)

John Ryan, “Nanotechnology: separating fact, fiction, hype and hope”, nanotechnology and society, nanotechweb.org, 2004.

(Available in the Seminarordner and on myStudy)

Eds Mihail C. Roco and William Sims Bainbridge, Nanotechnologies: Societal Implications – Maximizing Benefit for Humanity, Report of the 2003 National Nanotechnology Initiative Workshop, National Science Foundation, U.S. Government, 2005.

(Available in the Seminarordner and on myStudy)

Dean Ho and Carlo D. Montemagno, “The advent of innovation: Societal Perspectives of the Integrative Nanotechnology Revolution”, Department of Bioengineering, University of California, Los Angeles, 2004.

(Available only on myStudy)

Steven A. Edwards, The nanotech pioneers : where are they taking us?, Wiley-VCH, 2006.

(Available in the Seminarapparat)

Critics of nanotechnologies:

ETC Group, Patenting Pandora’s Bug: Goodbye, Dolly...Hello, Synthia! J. Craig Venter Institute Seeks Monopoly Patents on the World’s First-Ever Human-Made Life Form, News Release, 2007. >About the nanobiotechnologies, convergence of genetic research and nanotechnologies<

(Available in the Seminarordner and on myStudy)

ETC Group, Nanotech Rx, Medical Applications of Nano-scale Technologies: What Impact on Marginalized Communities?, ETC Group Report, 2006.

(Available in the Seminarordner and on myStudy)

ETC Group, Extreme Genetic Engineering: An Introduction to Synthetic Biology, ETC Group Report, 2006. >About the nanobiotechnologies, convergence of genetic research and nanotechnologies<

(Available only on myStudy)

ETC Group, EPA's Nanotech Regs: Ironic Parameters: Clean-up – Clam-up – Screw-up?, News Release, 2006.
(Available in the Seminarordner and on myStudy)

ETC Group, Nanotech Product Recall Underscores Need for Nanotech Moratorium: Is the Magic Gone?, News Release, 2006.
(Available only on myStudy)

ETC Group, NanoGeoPolitics: ETC Group Surveys the Political Landscape, ETC Group Report, 2005.
(Available in the Seminarordner and on myStudy)

ETC Group, Nanotech's "Second Nature" Patents: Implications for the Global South, ETC Group Report, 2005.
(Available in the Seminarordner and on myStudy)

ETC Group, The potential impacts of nano-scale technologies on commodity markets: the implications for commodity dependent developing countries, Trade-related agenda, development and equity Research Papers, South Centre, 2005.
(Available in the Seminarordner and on myStudy)

ETC Group, Oligopoly, Inc. 2005: Concentration in Corporate Power, Communiqué 91, 2005.
(Available only on myStudy)

ETC Group, Down on the farm, The Impact of Nano-Scale Technologies on Food and Agriculture, ETC Group Report, 2004.
(Available in the Seminarordner and on myStudy)

ETC Group, Nanotech: Unpredictable and Un-Regulated, News Release, 2004.
(Available only on myStudy)

ETC Group, UK Report: More Hits than Misses on Nanotech, News Release, 2004.
(Available in the Seminarordner and on myStudy)

ETC Group, 26 Governments Tiptoe Toward Global Nano Governance: Grey-Governance?, News Release, 2004.
(Available in the Seminarordner and on myStudy)

ETC Group, Nanotech News in Living Colour: An Update on White Papers, Red Flags, Green Goo, Grey Goo (and Red Herrings), Communiqué 85, 2004.
(Available in the Seminarordner and on myStudy)

ETC Group, Itty-bitty Ethics: Bioethicists see quantum plots in nanotech concern... and quantum bucks in buckyball brouhaha?, 2004.
(Available in the Seminarordner and on myStudy)

ETC Group, From genomes to atoms: the big down, Atomtech: Technologies Converging at the Nano-scale, 2003.

(Available in the Seminarordner and on myStudy)

ETC Group, No Small Matter II: The Case for a Global Moratorium: Size Matters!, Occasional Paper Series, vol 7 no 1, 2003.

(Available in the Seminarordner and on myStudy)

ETC Group, Nanotech Un-gooed! Is the Grey/Green Goo Brouhaha the Industry's Second Blunder?, Communiqué 80, 2003.

(Available in the Seminarordner and on myStudy)

ETC Group, The Strategy for Converging Technologies: The Little BANG Theory, A mix of Bits, Atoms, Neurons and Genes (B.A.N.G.) make the world come 'round –for the USA!, Communiqué 78, 2003.

(Available in the Seminarordner and on myStudy)

ETC Group, Green Goo: Nanobiotechnology Comes Alive!, Communiqué 77, 2003.

(Available in the Seminarordner and on myStudy)

ETC Group, No Small Matter! Nanotech Particles Penetrate Living Cells and Accumulate in Animal Organs, Communiqué 76, 2002.

(Available in the Seminarordner and on myStudy)

Pat Roy Mooney, The ETC Century: Erosion, Technological Transformation and Corporate Concentration in the 21st Century, Dag Hammarskjöld Foundation, Rural Advancement Foundation International, 1999.

(Available in the Seminarordner and on myStudy)

For any latest news from the critics side, the most prolific website is again ETC's: <http://www.etcgroup.org/en/>

See also...

<http://post.thing.net/node/1618>

Websites with news and discussions of implications of nanotechnologies and of communication about nanotechnologies (rather pro-nanotechnology):

<http://www.nanotechproject.org/> (The teacher selected a few news releases from this site; to be found in the "Seminarordner" and on myStudy...)

<http://www.foresight.org> (this is Drexler's organization for his version of a 'responsible' development of nanotechnologies)

<http://www.kurzweilai.net/meme/frame.html?main=memelist.html?m=2%23685>

http://www.nanotech-now.com/nano_intro.htm

<http://cns.asu.edu/>

http://www.exponano.com/EN/module4_nano.html (French traveling science

exhibition about nanotechnologies)

<http://www.nisenet.org/project/index.html>

3) Science Fiction and nano references:

Colin Milburn, "Nanotechnology in the Age of Posthuman Engineering: Science Fiction as Science", in Ed. N. Katherine Hayles, *Nanoculture : implications of the new technoscience*, Intellect Ltd, 2004.
(Available in the Seminarapparat)

Brooks Landon, "Less is More: Much Less is Much More: The Insistent Allure of Nanotechnology Narratives in Science Fiction", in Ed. N. Katherine Hayles, *Nanoculture : implications of the new technoscience*, Intellect Ltd, 2004.
(Available in the Seminarapparat)

Daniel Patrick Thurs, "Tiny Tech, Transcendent Tech: Nanotechnology, Science Fiction, and the Limits of Modern Science Talk", *Science Communication*, 2007; 29; 65.
(Available in the Seminarordner and on myStudy)

Rosalyn W. Berne and Joachim Schummer, "Teaching Societal and Ethical Implications of Nanotechnology to Engineering Students Through Science Fiction", *Bulletin of Science, Technology and Society*, 2005; 25; 459.
(Available in the Seminarordner and on myStudy)

Remark: Also look in Berne's *Nanotalk* (2006) book, in the Seminarapparat, for the parts about science fiction.

José López, "Bridging the Gaps: Science Fiction in Nanotechnology", *HYLE-- International Journal for Philosophy of Chemistry*, Vol. 10, No.2 (2004), pp. 129-152
(Available in the Seminarordner and on myStudy)

William Gibson: *Neuromancer*: Roman, Heyne, 1997. (You can also buy the original version in English language for less than 7 euros.) NB: Secondary reading: Not directly dealing with nanotechnologies, but interesting as the first 'cyber-punk' style science fiction book.
(Available at the university's central library)

Michael Flynn, *The Nanotech Chronicles*, baen, 1991.
NB: Main recommended SF book.
(Extracts available in Seminarordner)

Neal Stephenson, *The Diamond Age: Or, a Young Lady's Illustrated Primer*, Penguin Books Ltd, 1998.
NB: Main recommended SF book.
(Can be purchased from Amazon.de. The teacher has a copy which you can have a look at but not borrow.)

Michael Crichton, Prey, Avon books, 2002.
(Can be purchased from Amazon.de. The teacher has a copy which you can have a look at but not borrow.)

See also...

<http://www.geocities.com/asnapier/nano/n-sf/books.html>

On <http://www.amazon.com> search “Nanotechnology in Science Fiction” in Listmania...

<http://www.geocities.com/asnapier/nano/nanowars/>

4) Arts related references:

Introductory reference on art and social responsibility

Ed. Carol Becker, The subversive imagination : artists, society, and social responsibility, Routledge, 1994.
(Available in the Seminarapparat)

On art in a society shaped by accelerating technological change:

Paul Virilio, Unknown quantity, Fondation Cartier pour l'Art Contemporain, Thames & Hudson, Londo, 2003.
(Photocopies will be made available by the teacher, in the Seminarordner)

Steve Redhead, Paul Virilio : theorist for an accelerated culture, University of Toronto Press, 2005.
(Available at the library as Signatur 06-11983)

Sylvère Lotringer and Paul Virilio, The accident of art, Semiotext, 2005.
(Available at the library as Signatur Ku 140.070)

Paul Virilio, Art and fear, Continuum, 2006.
NB: Secondary reading (read first the other references in this section)
(Available at the library as Signatur 06-11728)

See also...

http://www.onoci.net/virilio/index_uk.php (website of the exhibition at the Fondation Cartier, Paris)

NB: The following arts related references are ordered into categories to ease your project work. However, be aware that several artists and projects mentioned below cover several of these 'categories'.

The critical/activist category: Tactical Media, Culture Jam, Intervention Art,

etc.

Eds Nato Thompson and Gregory Sholette, *The Interventionists: Users' Manual for the Creative Disruption of Everyday Life*, MIT Pres, 2004.
(Available in the Seminarapparat)

Ed. Stephen Duncombe, *Cultural resistance reader*, Verso, London, 2002.
(Available in the Seminarapparat)

Andy Bichlbaum, *The yes men : the true story of the end of the World Trade Organization*, Disinformation Co., New York, 2004.
(Available in the Seminarapparat)

Books of the Critical Art Ensemble, all fully available online at:
<http://www.critical-art.net/books/index.html>

Ed. John C. Welchman, *Institutional Critique And After*, Jrp/Ringier, Zurich, 2006
(Available in the Seminarapparat)

Wolfgang Zinggl, *WochenKlausur : gesellschaftspolitischer Aktivismus in der Kunst*, Springer, 2001.
(Available at the Teilbibliothek Rotes Feld)

Website of Bureau d'études: <http://utangente.free.fr/> (the teacher also has a big poster from this art group to show you...)

The 'sustainability' category:

Eds Stephanie Smith and Victor Margolin, *Beyond green: toward a sustainable art*, Smart Museum of Art, 2005.
(Available in the Seminarapparat)

Eds. Sacha Kagan and Volker Kirchberg, *Sustainability: a new frontier for the arts and cultures*, VAS, 2008 (forthcoming).
(selected articles will be available on myStudy by mid-October)

Centro Andaluz de Arte Contemporáneo, "Bios 4: Technological and environmental art", exhibition leaflet, 2007. See also website at:
<http://www.caac.es/programa/bios04/frame.htm> (check out the links to artists websites...)
(Available in the Seminarordner and on myStudy)

+ (another text by Antonio Cerveira Pinto might be added later on)

See also...

<http://greenmuseum.org/> (a good starting point to learn about ecological art, which constitutes a major stream in 'sustainability' related art)

The art & technology, art & science category:

Ed. Katja Kwastek, Ohne Schnur : Kunst und drahtlose Kommunikation / Art and wireless communication; eine Ausstellung vom Cuxhavener Kunstverein, Cuxhaven, Frankfurt am Main : Revolver, Archiv für Aktuelle Kunst, 2004.
(Available in the Seminarapparat)

Siân Ede, Art and science, Tauris, 2005.
(Available from all computers in the University network at
<http://www.netlibrary.com/urlapi.asp?action=summary&v=1&bookid=137821>)

R. L. Rutsky, High Techne: Art and Technology from the Machine Aesthetic to the Posthuman, University of Minnesota Press, 1999.
(Available in the Seminarapparat -maybe-)

Marga Bijvoet , Art as inquiry : toward new collaborations between art, science, and technology, Lang, 1997.
(Available in the Seminarapparat)

“Die Zukunft des Körpers I”, Kunstforum international, Bd. 132, November-Januar 1996.
(Check if available at Uni library)

“Die Zukunft des Körpers II”, Kunstforum international, Bd. 133, February-April 1996.
(Check if available at Uni library)

Check out the website of the ZKM | Zentrum für Kunst und Medientechnologie Karlsruhe:
<http://www.zkm.de/>
e.g. A symposium in 2004: [http://on1.zkm.de/zkm/stories/storyReader\\$4150](http://on1.zkm.de/zkm/stories/storyReader$4150)
(and publication mentioned at [http://on1.zkm.de/zkm/stories/storyReader\\$4712](http://on1.zkm.de/zkm/stories/storyReader$4712)
)

See also...
<http://www.artfuture.com/>
http://www.episteme.u-bordeaux.fr/_Glykos_conf_Vienne.html

The current 'Nano' interested art :

Ars Electronica 1992 Web Archive: "Endo Nano"
http://www.aec.at/de/archives/festival_archive/festival_catalogs/festival_catalog.asp?iProjectID=8830

N. Katherine Hayles, “Connecting the Quantum Dots: Nanotechscience and Culture”, in Ed. N. Katherine Hayles, Nanoculture : implications of the new technoscience, Intellect Ltd, 2004.
(Available in the Seminarapparat)

Adriana de Souza e Silva, “Invisible Imaginary: Museum Spaces, Hybrid Reality and Nanotechnology”, in Ed. N. Katherine Hayles, Nanoculture :

implications of the new technoscience, Intellect Ltd, 2004.
(Available in the Seminarapparat)

Carol Ann Wald, "Working Boundaries on the NANO Exhibition", in Ed. N. Katherine Hayles, Nanoculture : implications of the new technoscience, Intellect Ltd, 2004.

Victoria Vesna and Jim Gimzewski, "NANO: An exhibition of scale and senses", CAA 2004 Artists' statements.
(Available in the Seminarordner and on myStudy)

Victoria Vesna and Jim Gimzewski, NANO: At the intersection of art and science, exhibition catalogue, Los Angeles County Museum of Art (LACMA), 2004. See also the website at: <http://nano.arts.ucla.edu>
(Available only on myStudy : too large to print on A4 paper)

Jim Gimzewski and Victoria Vesna, "The Nanomeme Syndrome: Blurring of fact & fiction in the construction of a new science", Technoetics Arts, a journal of speculative research, vol 1 no 1.
(Available in the Seminarordner and on myStudy)

Victoria Vesna, "Mind and Body Shifting: From Networks to Nanosystems", paper at Artmedia VIII: De "l'Esthétique de la communication" au Net art, Paris, 2002
(Available in the Seminarordner and on myStudy)

Brad Hampton, "Utility Fog: The nebulous emergence of nano-art"; petite mort, 3, 2005.
Available at: http://www.petitemort.org/issue03/27_nanoart/

See also...

about Victoria Vesna on the web:
<http://notime.arts.ucla.edu/zerowave/zerowave.html>
<http://www.location1.org/ohw-with-victoria-vesna/>
<http://nano.arts.ucla.edu/mandala/mandala.php>
<http://artsci.ucla.edu/BlueMorph/main.html>
http://vv.arts.ucla.edu/publications/interviews/02-03/V_interview_LATimes.htm
<http://www.digicult.it/digimag/article.asp?id=705>

Art project: *Bits.Atoms.Neurons.Genes* :
<http://bang.calit2.net/>

Art project: Particles of interest:
<http://pitmm.net/>

Art project: The dark side of the cell:
<http://www.darksideofcell.info/>

Alice Wang's "Nanoweapon":

<http://www.alice-wang.com/weapons.html>
http://www.we-make-money-not-art.com/archives/cat_nanotechnology.php

Scientific imagery at nanoscale as “art”:
<http://www.nanobliss.com/>
http://nanoatlas.ifs.hr/index_2.html

COLLISIONcollective:
<http://www.collisioncollective.org/>

Institute of unnecessary research:
<http://www.unnecessaryresearch.org/>

Nan°Art (exhibition in October 2007 in Italy):
<http://www.nanoarte.it/areastampa/cs.pdf> (press release in Italian)
http://www.nanoarte.it/nano_eng.html (website; rather uninformative unfortunately...)

Exhibition in September 2007 at the Maison Européenne de la Photographie, Paris: “@rt Outsiders” festival:
<http://www.art-outsiders.com/> (text in English at http://www.art-outsiders.com/default_eng.htm)
http://www.mep-fr.org/actu_1.htm

The Yasmin discussion list (LEONARDO/OLATS network, M.I.T.) :
<http://www.media.uoa.gr/yasmin/viewtopic.php?t=1262>

Ziel:

The students will be introduced to the challenge of the construction of 'cultures of sustainability' through a focus on the controversial subject of future technologies with the case of nanotechnologies. The seminar will introduce pressing issues related to nanotechnologies and sustainability: political, social and economic issues of technological 'progress' and of cultural trends such as 'posthumanism'; the precaution principle; uncertainty; and possible consequences of nanotechnologies.

The seminar will also highlight the question of the role of the arts in addressing these issues and in contributing to cultures of sustainability in the contemporary Western societies. The roles of the arts in fostering social-ecological irresponsibility and unsustainability will also be critically appraised.

Gruppenarbeit mit Abschlusspräsentation, erstellen eines 4-6seitigen Abstracts zur Bewerbung um die Präsentation der Gruppenarbeit auf der Konferenzwoche, aktive Teilnahme im Seminar

Evaluation criteria (by order of importance):

- Prüfungsleistung:**
- Project work (written ‘abstract’ and performance at the ‘Konferenzwoche’) = about 70% of the final grade
 - Quality of the presentation/’Referat’ realized in the Seminar = about 20% of the final grade (failure to present a ‘Referat’ will result in a penalty on the overall grade)
 - Active participation during the Seminar = about 10% of the final grade (repeated absence will result in a penalty on the overall grade; the penalty goes up to a non-passed grade i.e. ‘Prüfungsleistung nicht erfüllt’ if the student misses 4 sessions)

Description of the project work:

The project work, to be realized in small groups of 5-6 students, consists in a simulation of a project for an art exhibition. (Actually, Sacha Kagan and Christian Papilloud are envisioning such a project in the 'real world', but that project is still in a very early preliminary stage of development.)

This work will allow the students to reflect upon two interconnected questions: How the arts (including science fiction literature) can help social actors (individuals and groups) in imagining, understanding, assessing the possible implications of nanotechnologies in terms of their direct and indirect impacts at all levels of society (health, environmental, economic issues, North-South relations, ethical issues, societal changes, etc.)... How curators and artists (among others) can approach the theme of 'nanotechnologies' in a "socially responsible" way with regards to the ideal of promoting 'Sustainability'.

Each group will have to prepare a "paper" and defend this paper in class and at the final conference closing the Modul 'Verantwortung in der Gesellschaft'. The paper will be a proposal for an art exhibition around nanotechnologies.

The "paper" and its presentations will have to follow this structure:

Sonstiges:

- 1) General discourse, about the meaning and implications of the social responsibility of the curators and artists, with regards to emergent technologies in general and nanotechnologies in particular.
- 2) Discussion of the previous art exhibition concerned with nanotechnologies (NANO, at LACMA Lab, Los Angeles) and characterization of the qualities and limits of that exhibition (to be compared to the proposed new exhibition).
- 3) Declaration of principles: What the proposed exhibition will aim to achieve.
- 4) Description of the proposed exhibition: Focus on key themes and choice of artists. The choice of the artists and/or types of art works to be included in the exhibition, as well as the choice of themes, will have to be justified, with regards to the declaration of principles and to the general discourse.

Remark: In your simulated exhibition, there is plenty of flexibility with regards to what an "art work" can be (see e.g. Wochenklausur's work) and the 'exhibition space' need not necessarily be a traditional museum or gallery space...

Each team will have to follow a certain normative-thematic frame with respect to nanotechnologies: In the 6 teams of 5-6 students, the following 6 discourses will be developed (one per team):

- (a) Nanotechnologies under the perspective of the precaution principle.
- (b) Nanotechnologies under the perspectives of technoculture and posthumanism/transhumanism.
- (c) Nanotechnologies under the political economy perspective (institutions, economy, power networks).
- (d) Nanotechnologies as a social-cultural phenomenon (with e.g. a culture of uncertainty, new forms of collaborativity, etc.).
- (e) New technologies as a set of neutral tools that can be used or misused.
- (f) New technologies as a new environment restructuring society (including its ethics, its politics, its aesthetics).

