LEHRVERANSTALTUNGEN


from Cicero's writings, British Museum

12143 - WISSENSCHAFTLICHES PUBLIZIEREN UND ILLUSTRIEREN

Übung (1 KP) * Herbstsemester 2011, 2013, 2015

RENEE HEILBRONNER

ZIEL

Grundsätzliche Aspekte und Techniken der wissenschaftlichen Kommunikation sollen vermittelt werden

INHALT

Die Veranstaltung richtet sich an Studierende der höheren Semester, welche mit der einer grösseren Abschlussarbeit bzw. mit der Publikation ihrer Forschung befasst sind.

An vier Nachmittagen werden folgende Themen behandelt.
1. Herstellung einer Webpage (Text Editor, Browser)
2. Digitale Druckvorlagen (Vektor und Rastergrafik, Adobe Photoshop)
3. Herstellung eines Posters (Adobe Illustrator, Powerpoint)
4. Wissenschaftlicher Vortrag (PowerPoint).

BEILAGEN

werden verteilt.

(BACK)

Inhalt der Lehrveranstaltung

VORLESUNGSVERZEICHNIS ONLINE 25.10.2013

12143-01 Übung: Scientific Illustration and Publishing 1 KP

Dozierende	**Renée Heilbronner (renee.heilbronner@unibas.ch)**
Zeit	Freitag, 13.15-17.00 Bernoullianum, Computerraum 24B Blockkurs : 4 halbe Tage. Jeweils am FR 1., 8., 15. und 22. NOVEMBER 2013. Sich bitte bei Dozentin melden. Blockkurs : 4 halbe Tage. FR 1., 8., 15. und 22. November 2013. Von 13.15 - 17.00 Uhr im CR. Sich bitte bei Dozentin melden.
Beginndatum	20.09.2013
Teilnahmebedingungen	Grundkenntnisse in Geowissenschaften und Informatik werden vorausgesetzt.
Anmeldung zur Lehrveranstaltung	renee.heilbronner@unibas.ch
Intervall	unregelmässig
Angebotsmuster	
Anbietende Organisationseinheit	
Module	elor Geowissenschaften 07)
Lernziele	n sollen vermittelt werden.
Inhalt	mit der einer grösseren Abschlussarbeit bzw. mit der de Themen behandelt. 1.Digitale Druckvorlagen (Vektor (Texteditor, Browser) 3. Herstellung eines Posters t). Gearbeitet wird auf Mac / PC.
Literatur	Beilagen zur Vorlesung werden verteilt.
Weblink	http://pages.unibas.ch/earth/micro/
Leistungsüberprüfung	Lehrveranst.-begleitend
Skala	Pass / Fail
Wiederholungsprüfung	keine Wiederholungsprüfung
An-/Abmeldung zur Leistungsüberprüfung	
Hinweise zur Leistungsüberprüfung	geteilt.
Zuständige Fakultät	Philosophisch-Naturwissensch. Fakultät, Pruefungssek-Philnat@unibas.ch
Wiederholtes Belegen	
Einsatz digitaler Medien	

1. Gedruckte Publikation
2. Poster
3. Web page / Internet
4. Vortrag

http://earth.unibas.ch/micro

Verwandte Lehrveranstaltungen:

- Informationsdesign
  - Ein Kurs mit Martina Schradi
    LearnTechNet
    Universität Basel
- 23833 Scientific Writing in Natural Sciences
  - Seminar mit Franz Conen & Helge Niemann

ADAM.unibas.ch/
Workspaces » Philosophisch-Naturwissenschaftliche Fakultät » Departement Umweltwissenschaften » Geowissenschaften » Scientific Publishing and Illustration

Leistungsüberprüfung

Abgeben bis 17. Januar 2014

1 Poster: eine Datei (PDF)
1 Webpage: ein Ordner (html, jpeg)
1 Vortrag: eine Präsentation (Powerpoint, Open Office, Keynote)
(2 auswählen)

Wie abgeben?

(1) per email oder DocExchange an renee.heilbronner@unibas.ch

(2) auf Datenträger bei mir vorbeibringen (Büro 110, Bernoullianum)

(3) auf Datenträger in meinen Briefkasten legen, dann bitte mit Bezeichnung, was es ist und vom wem.

(4) auf einem Computer im Computerraum hinterlegen. Dann bitte per email mitteilen, auf welchem Computer die Files zu finden sind und wie sie heissen.

Leistungsüberprüfung

Anforderungen an Poster:

Das Poster muss der Form nach vollständig sein, das heisst alle Elemente eines Posters enthalten:
(1) Titel, Autor, Adresse, email, logo, (2) Themenblöcke mit Titeln (3) Abbildungen mit Bildlegenden (mindestens eine Rastergrafik, (4)Zusammenfassung

Anforderung an Website:

(1) Curriculum Vitae: vollständiger CV (wie wenn Sie sich bewerben würden) mit Photo. Cascading style sheets benutzen. Link(s) zur Themenseite.
(2) Themenseite: mit Bildern, mit Link(s). Cascading style sheets benutzen.

Anforderung an Vortrag:

Vollständiger Vortrag mit maximal 10 Folien
Presenter Notes benützen: Vortrag in Stichworten

Was noch?

Bitte nehmen Sie die Aufgaben einigermassen ernst:

- Zügeln Sie Ihre kreative Phantasie, Poster und webpages sollten möglichst durch ihren Inhalt, nicht durch ihre Form bestechen, bzw. die Form sollte sich dem Inhalt völlig unterordnen. Zu viel Farbe, zuviele verschiedene Fonts lenken ab. Berücksichtigen, dass die Sehgewohnheiten relativ konventionell sind. Auffällig ja - verwirrend nein.

- Auch geht es weniger darum zu beweisen, dass Sie Illustrator oder Photoshop meisterhaft beherrschen oder fliessend html programmieren können, sondern darum, dass Sie auf einem Poster bzw. auf der Webpage Ihre 'message' auf den Punkt bringen können.

- Scherz-Poster oder Witz-Seiten sind zwar lustig, verderben aber Ihre Chance für den Kreditpunkt.

(1) Abbildungen für gedruckte Publikation

Intro

Gedruckte Publikation, Poster, WebPage und Vortrag

- Kommunikation wissenschaftlicher Inhalte
- müssen auf Zielpublikum abgestimmt sein
  - nach Form (Verhältnis Text : Illustration, Länge, 'Tonfall', etc.)
  - nach Inhalt (Spezialisierung, 'Schwierigkeitsgrad', etc.)
- persönliches Karriere - Instrument
- unterliegen ethischen Anforderungen
  - Plagiatserklärung der Universität Basel:
    "Hiermit erkläre ich, dass mir bei der Abfassung dieser Arbeit nur die darin angegebene Hilfe zuteil wurde und dass ich sie nur mit den in der Arbeit angegebenen Hilfsmitteln verfasst habe."

	Publikation	Poster	Web page	Vortrag
Interaktion	indirekt	indirekt & direkt	indirekt	direkt
Zeit	beliebig	$\leq$ 30 Minuten	beliebig	~ 15 Minuten
Zielpublikum	Spezialisten & Laien	Spezialisten	Laien	Spezialisten

'How to write a Manuscript for a Journal'

Kurt Stüwe & Anton Drescher, 2012
Mitteilungen des naturwissenschaftlichen Vereines für Steiermark
Bd. 142, S. 117–144, Graz 2012

Plagiat - self plagiarism

Ein Plagiat liegt vor, wenn jemand Wörter, Ideen oder Arbeitsergebnisse verwendet, die einer identifizierbaren Person oder Quelle zugeordnet werden können, ohne die Übernahme sowie die Quelle in geeigneter Form auszuweisen, in einem Zusammenhang, in dem zu erwarten ist, dass eine originäre Autorschaft vorliegt, um einen Nutzen, eine Note oder einen sonstigen Vorteil zu erlangen, der nicht notwendigerweise ein geldwerter sein muss.

(2009 Teddi Fishman, Direktorin der International Center for Academic Integrity)

→ http://de.wikipedia.org/wiki/Plagiat

Self-plagiarism refers to specific forms of unethical publication:

1. "dual or redundant publication"
2. student who resubmit "the same essay for credit in two different courses"
3. heavy publish-or-perish demands kead to duplicate and "salami-slicing" publication
4. reporting of a single study's results in "least publishable units"
5. duplicate publication of an article in more than one journal
6. text recycling
7. copyright infringement

→http://en.wikipedia.org/wiki/Plagiarism

Publish or perish

Thomson Scientific databanks:

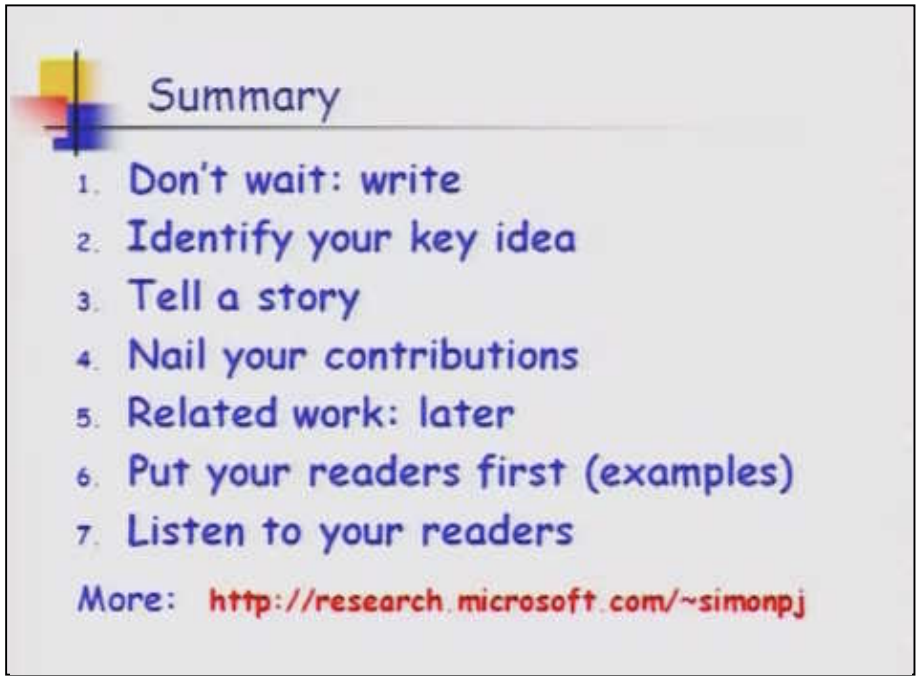
- SCI (Science citation Index)
- SCIE (Science Citation Index Expanded)
- SSCI (Social Sciences Citation Index)
- A&HCI (Arts and Humanities Citation Index)
- No Conference contributions, no text books

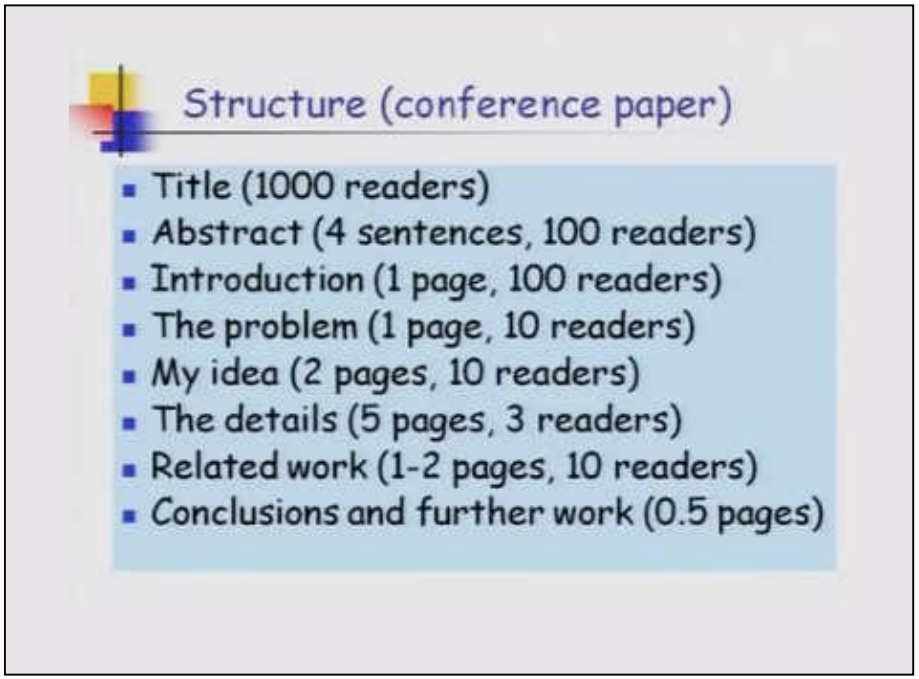
The most important search options in the Web of Science are:

- General Search helps to find authors and papers.
- Cited Ref Search helps to find authors and all their papers.
- Science Citation Index

1. Total citations
2. Hirsch Index
3. Impact factor of journal

'how to write a good paper'





http://www.youtube.com/watch?v=g3dkRsTqdDA
Simon Peyton Jones - Microsoft Research, Cambridge

Technisches: Struktur des Papers

1. page 1:	Title, authors, affiliations
2. page 2:	Abstract (usually no more than 1 page)
3. page 3 to n:	Body of paper
4. page $(n + 1)$	Acknowledgements
5. page $(n + 2)$ to m:	References
6. page $(m + 1)$ to x:	Figure captions
7. page $(x + 1)$ to y:	Table captions
8. page $(y + 1)$ to z:	Figures (one per page)
9. page $(z + 1)$ to end:	Tables (one per page)

Kurt Stüwe & Anton Drescher, 2012
Mitteilungen des naturwissenschaftlichen Vereines für Steiermark
Bd. 142, S. 117–144, Graz 2012

Farbig oder Schwarz-weiss

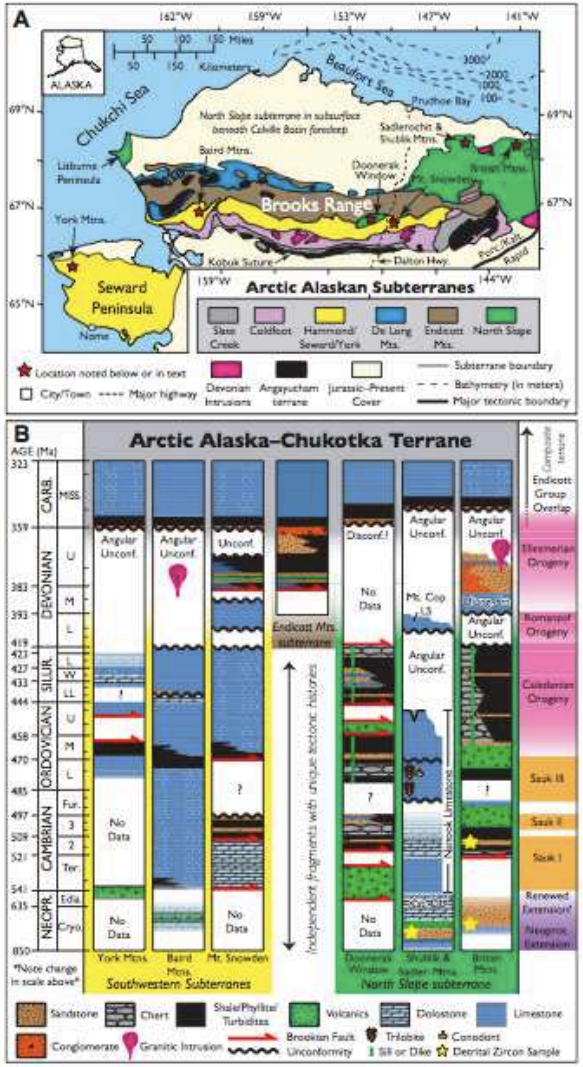


Figure 2. (A) Simplified subterrane map of northern Alaska modified after Moore et al. (1994). Putative sutures (e.g., Grantz et al., 1991) are likely delineated by approximate subterrane boundaries, but the individual subterranes could also host internal sutures as discussed in the text. The Porcupine-Kaltag-Rapid fault array is abbreviated. (B) Generalized stratigraphic columns of representative localities from the North Slope, Endicott Mountains, and southwestern subterranes of the Arctic Alaska–Chukotka terrane after Moore et al. (1994), Dumoulin et al. (2002), Amato et al. (2009), and Miller et al. (2010, 2011). The fading of colors is meant to indicate uncertainties in age constraints and/or the loss of subterrane independence via Arctic Alaska–Chukotka terrane amalgamation during northeastern Laurentian Devonian(?)–Mississippian orogenesis. Kat. DL—Katakturuk Dolomite; Mt. Cop LS—Mount Copleston Limestone; Ulung. Fm—Ulungarat Formation.

strata of the North Slope can also be linked to Laurentia (Figs. 4 and 5). Eight samples (Fig. 4; GSA Data Repository[1]) were collected from sandstone underlying the <800 Ma basalt of the Shublik and Sadlerochit Mountains (Macdonald et al., 2009) and Cryogenian(?)–Cambrian sandstone in the British Mountains (Fig. 2). The ages of these strata are constrained by trace and body fossils (Lane, 2007) and overlying volcanic rocks interbedded with Upper Cambrian trilobite fauna (Dutro et al., 1972). The new samples yield zircon U-Pb age populations ranging from ca. 760 Ma to 3420 Ma, with prominent peaks at 1000–1200 Ma, 1400–1500 Ma, 1800–2000 Ma, and 2700–2800 Ma, and they lack zircons of the Laurentian magmatic gap (Fig. 4; Grove et al., 2008, and references therein). These populations are similar to common age distributions from coeval strata and older basement preserved along the northern margin of Laurentia (Figs. 1 and 4; Kirkland et al., 2009; Hadlari et al., 2012; Anfinson et al., 2012). The occurrence of a small number of Neoproterozoic (ca. 760–980 Ma) detrital zircons in sandstone from the Sadlerochit Mountains led some workers to suggest a potential exotic origin for the platform sequence of the North Slope (Macdonald et al., 2009; Moore et al., 2011). However, zircons of this age recently reported from autochthonous Laurentian strata of similar age (Hadlari et al., 2012; Rainbird, 2012) call into the question the claim that this population is unambiguously exotic.

[1]GSA Data Repository Item 2013251, a summary of analytical procedures, detailed sample descriptions, and U-Pb data tables, histograms, and concordia plots, is available at www.geosociety.org/pubs/ft2013.htm, or on request from editing@geosociety.org, Documents Secretary, GSA, P.O. Box 9140, Boulder, CO 80301-9140, USA.

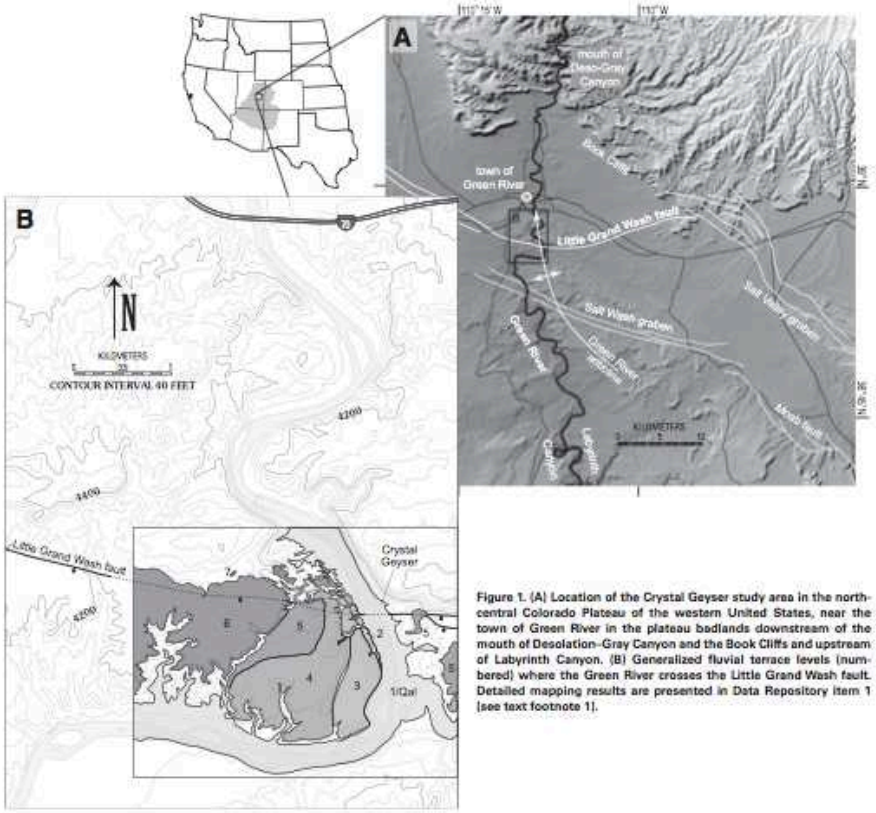


Figure 1. (A) Location of the Crystal Geyser study area in the north-central Colorado Plateau of the western United States, near the town of Green River in the plateau badlands downstream of the mouth of Desolation–Gray Canyon and the Book Cliffs and upstream of Labyrinth Canyon. (B) Generalized fluvial terrace levels (numbered) where the Green River crosses the Little Grand Wash fault. Detailed mapping results are presented in Data Repository item 1 (see text footnote 1).

scape evolution. The trunk drainages of the plateau have locally preserved a sequence of gravelly strath (thin sediment cover) and thick fill terraces that record both incision and responses to climate change (e.g., Marchetti and Cerling, 2005; Pederson et al., 2006). Through stratigraphic and geochronologic study, these can be used to constrain rates of local faulting and also provide time-integrated rates of incision along the trunk drainages that set the pace for broader erosion in the landscape.

The goal of this study is to document any late Quaternary faulting and the rate of river incision at a location in the north-central Colorado Plateau where such constraints are missing. We utilize the archive of Green River terrace deposits and associated travertine near Crystal Geyser, at the intersection of the Green River and the Little Grand Wash fault (Fig. 1B; DR1 map[1]). Field and geochronology results at Crystal Geyser reveal clear evidence for active river incision, but not active faulting, helping illuminate the patterns of erosion and deformation in this landscape.

BACKGROUND

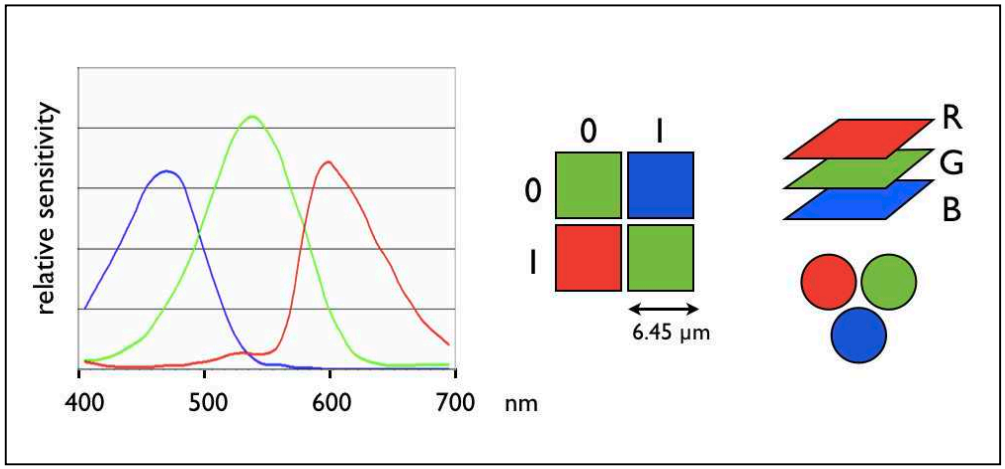
Setting

The Crystal Geyser study area lies along the Green River, 7 km south of the town of Green

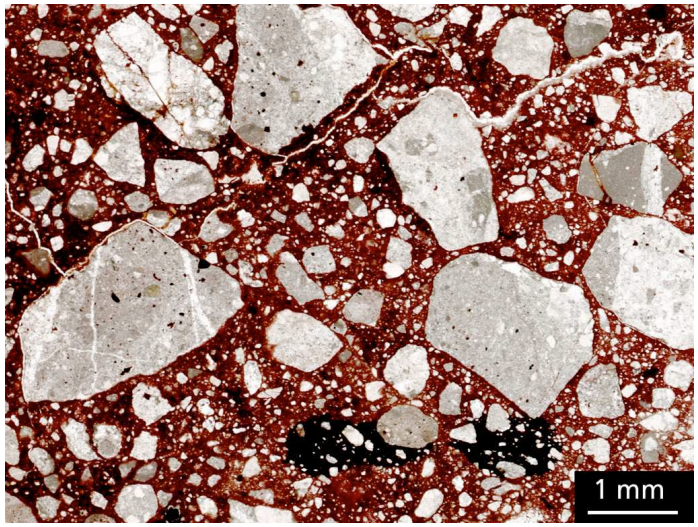
[1]GSA Data Repository Item 2013319, a 1:12,000 scale surficial geologic map of the study area (item 1) and tables, graphs, and descriptions of luminescence methods and results (item 2), is available at www.geosociety.org/pubs/ft2013.htm, or on request from editing@geosociety.org, Documents Secretary, GSA, P.O. Box 9140, Boulder, CO 80301-9140, USA.

2 Publikationen aus "Lithosphere", siehe Orden "Vergleich"

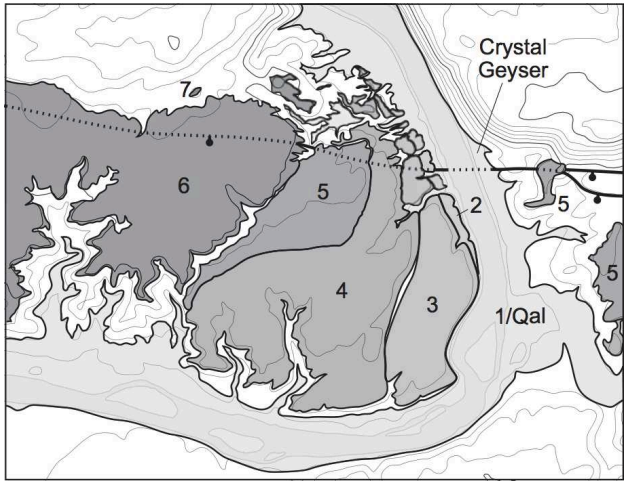
Typen von Grafik



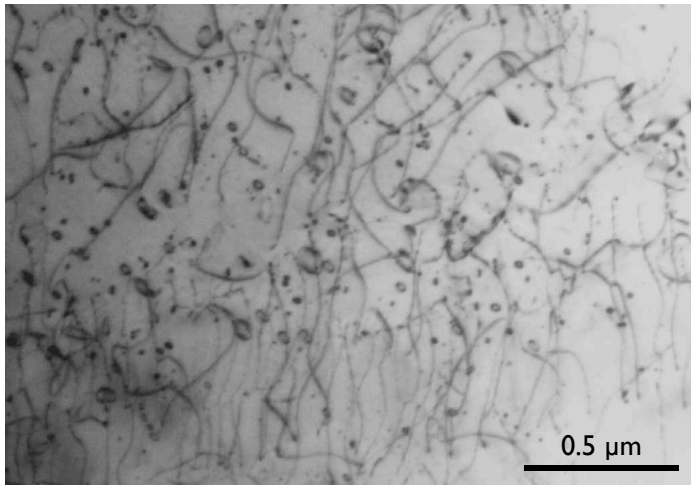
Strich farbig



Halbton farbig

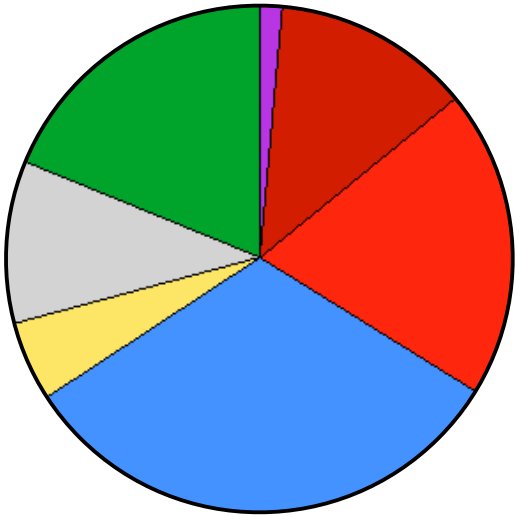


Strich b/w

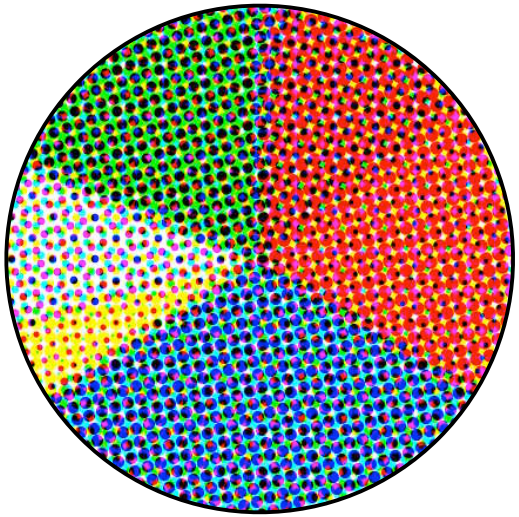


Halbton b/w

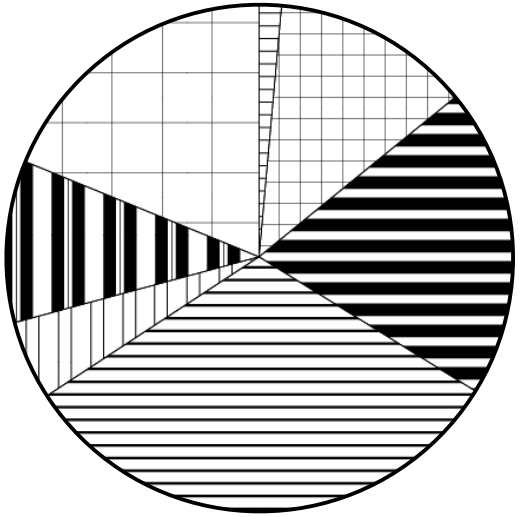
Farben und Raster

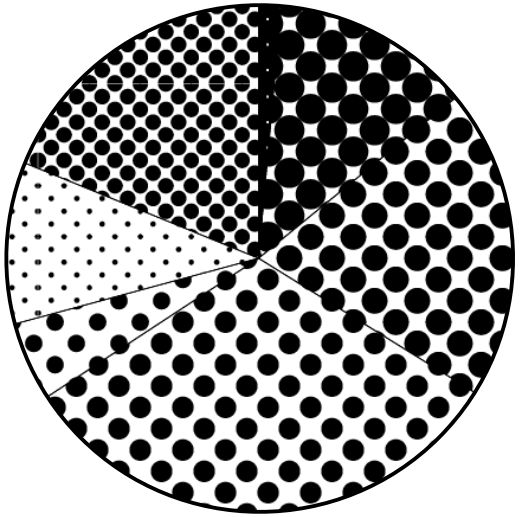


solid color



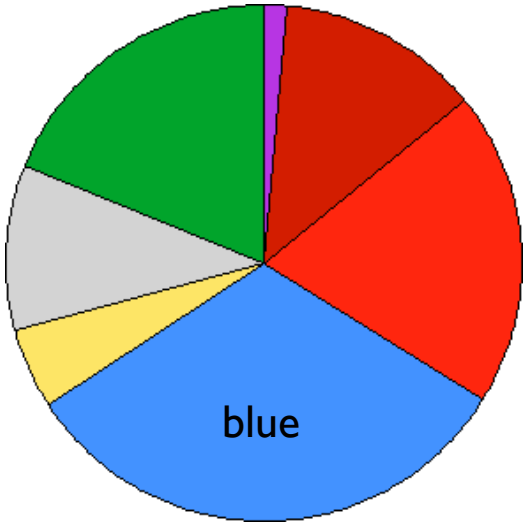
raster



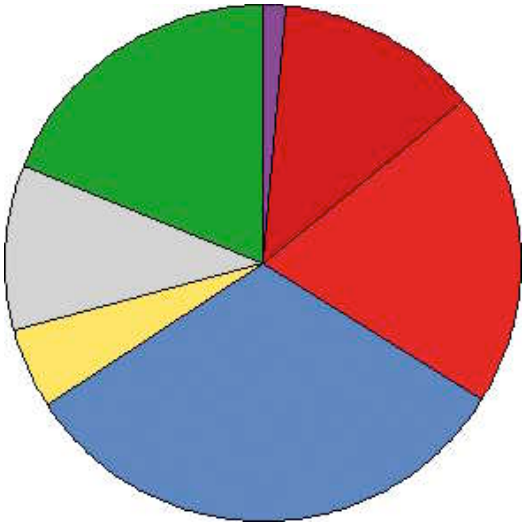


patterns

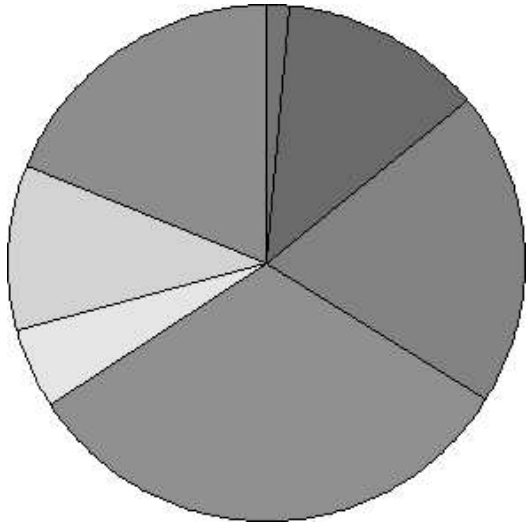
Color - Grayscale



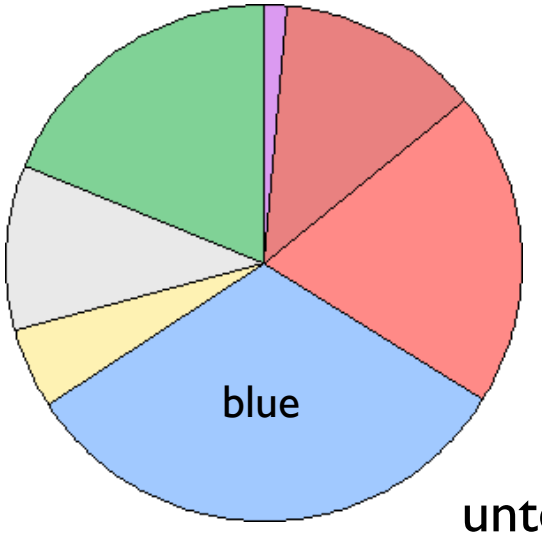
RGB



CMYK

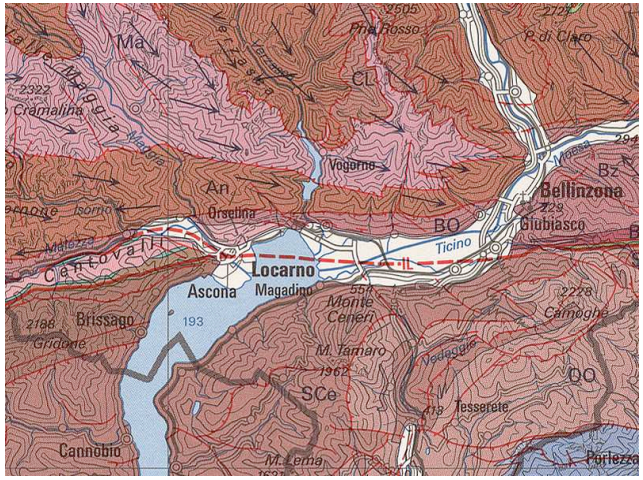


Grayscale

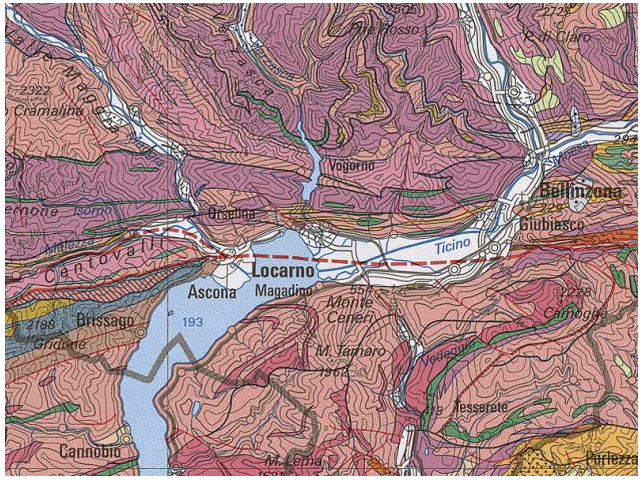


untersättigt - besser für Beschriftung

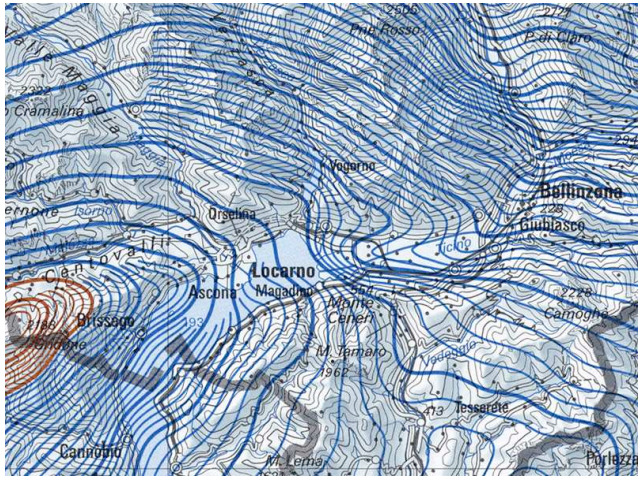
Farben und Raster in Karten



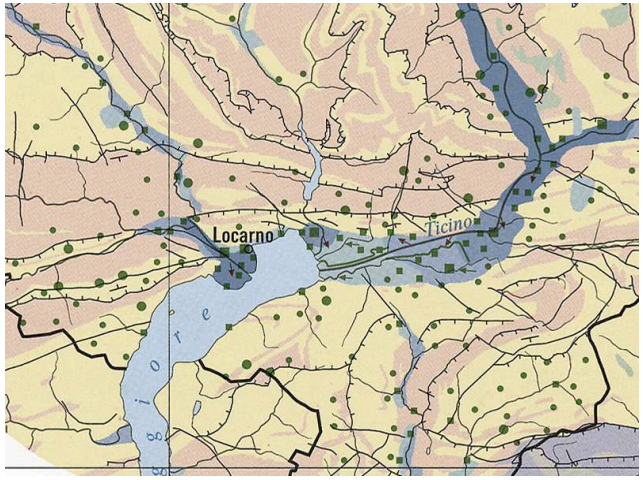
Geologie



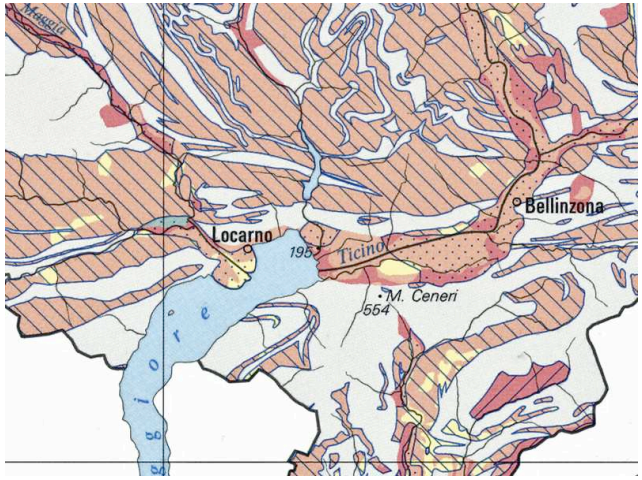
Tektonik



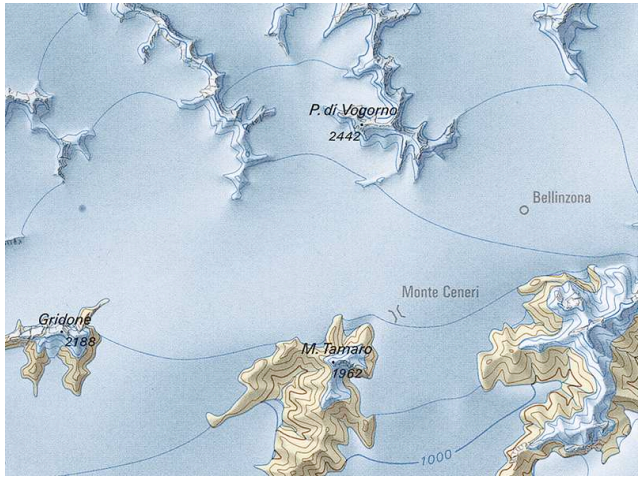
Schwere



Grundwasser



Vulnerabilität

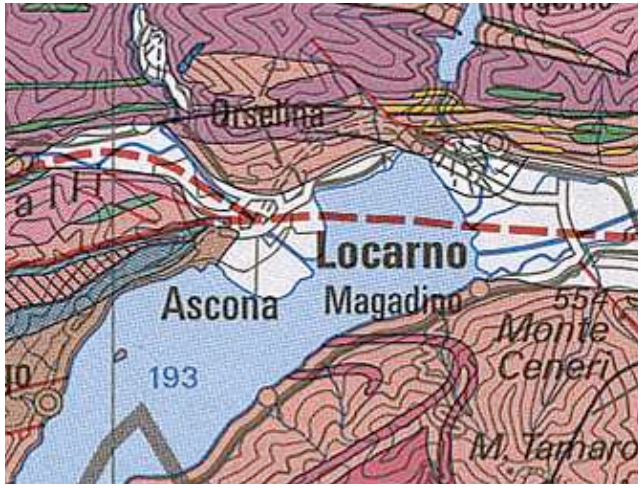


Letzte Vereisung

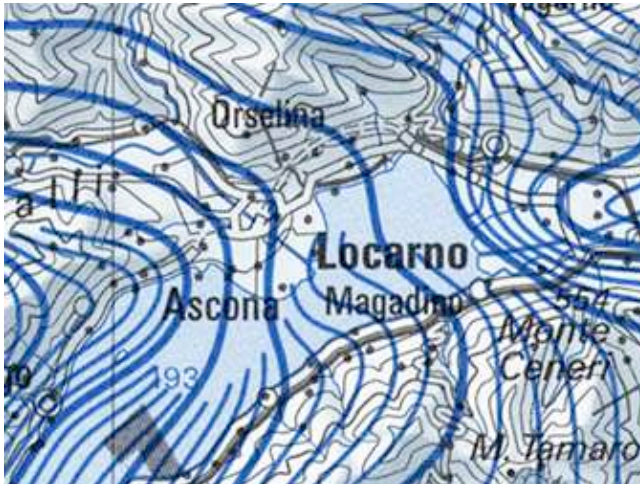
http://www.swisstopo.admin.ch/internet/swisstopo/de/home/products.html

Farben und Raster in Karten

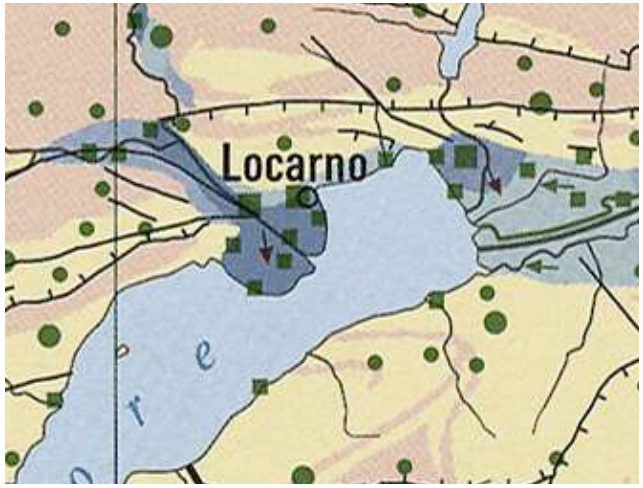
Geologie



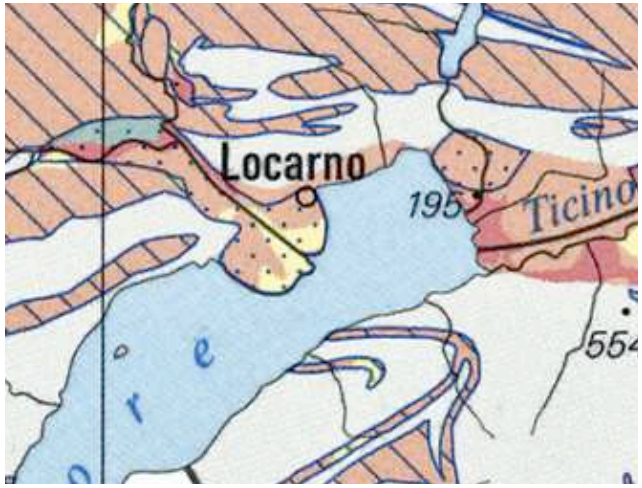
Tektonik



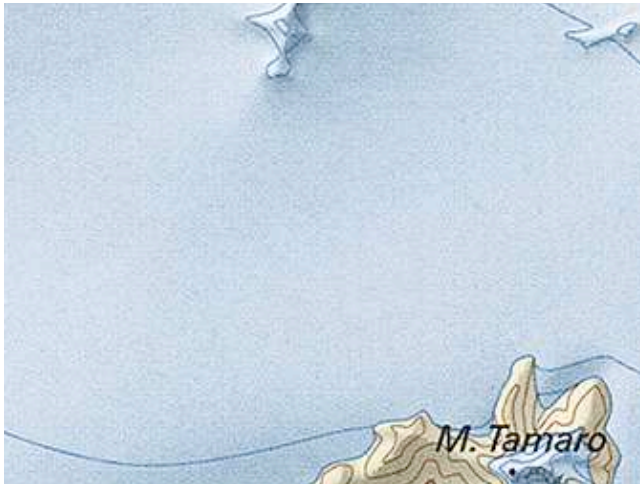
Schwere



Grundwasser



Vulnerabilität



Letzte Vereisung

http://www.swisstopo.admin.ch/internet/swisstopo/de/home/products.html

Aufgabe 1

Aufgabe 1 - Publikation

Motivation:

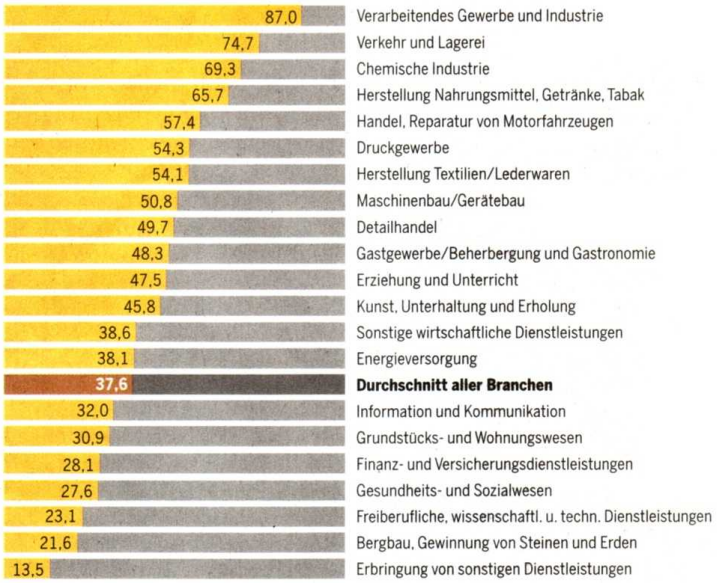
Es geht oft darum publizierte Daten mit eigenen Daten zu vergleichen. Dazu ist es am besten, die Daten in Zahlen aufzunehmen, um sie dann mit einem Spread sheet programm (Bsp. Kaleidagraph) neu zu plotten. In der 1. Aufgabe werden veröffentlichte Zahlen eingelesen (und geplottet). In der 2. Aufgabe werden publizierte Kurven digitalisiert (und geplottet)

1. Aus den Daten im Ordner "UNIBAS Jahresberichte" Histogramme erstelllen
    - Überlegen Sie: was wollen Sie zeigen ? Zunahme der Frauen über die Jahre, Frauenanteil an versch. Fakultäten ? Verhältnis Männer:Frauen bei Studierenden versus Dozierenden ? etc.
    - Kaleidagraph verwenden: Daten einlesen
    - Daten plotten. Überlegen Sie: was wollen Sie herausheben ?
    - Design Fragen: Farbig oder mono? Strich oder Raster ? Achsenbeschriftung, Schriftgrösse, Legende

2. Aus der Publikation im Ordner "Byerlee1968 revisited" Fig. 5 und Fig.1, 2, 3 oder 4 digitalisieren
    - Image SXM, Lazy Digitze Curve
    - Daten sichern und in Kaleidgraph öffnen, umrechnen, plotten (s.o.).

Daten aus der Literatur übernehmen

Anteile nicht erklärbarer Lohnunterschiede im Vergleich



Lesebeispiel: In einer privaten Sprachschule verdient eine Englischlehrerin 5000 Franken im Monat. Ihr männlicher Kollege verdient 5500 Franken (fiktive Annahme). Von der Differenz von 500 Franken sind durchschnittlich 47,5 %, das heisst 237 Franken, nicht erklärbar aufgrund von Erfahrung, Dienstjahren usw.

Der gelbe Anteil des Lohnunterschieds je Branche ist nicht erklärbar.
Je kleiner der Wert, desto geringer ist die eventuelle Diskriminierung der Frauen.

TA-Grafik san / Quelle: www.ebg.admin.ch (Eidg. Gleichstellungsbüro, Lohnstrukturerhebung des BFS)

Das Jahr 2003 in Kürze

STUDIERENDE/DOKTORIERENDE

	Frauen		Männer		Total	
Fakultät	2002/03	2003/04	2002/03	2003/04	2002/03	2003/04
Theologie	72	65	67	64	139	129
Recht	572	580	589	582	1161	1162
Medizin (inkl. Sport)	777	883	670	719	1447	1602
Phil.-Hist.	1687	1450	977	949	2664	2399
Wirtschaftswissenschaften	226	228	629	653	855	881
Psychologie	–	455	–	140	–	595
Phil.-Nat.	748	860	1020	1092	1768	1952
Total	4082	4521	3952	4199	8034	8720
Total in %	50,8 %	51,8 %	49,2 %	48,2 %	100 %	100 %

mit Scanner digitalisiert

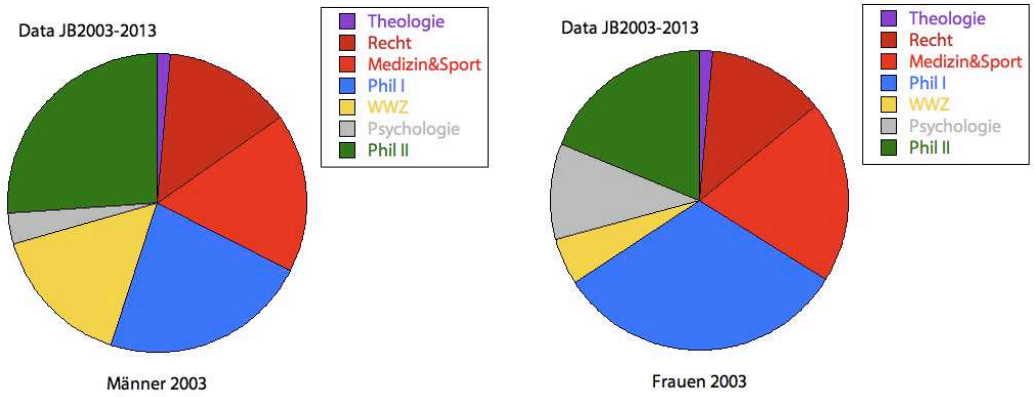
Screen shot from PDF

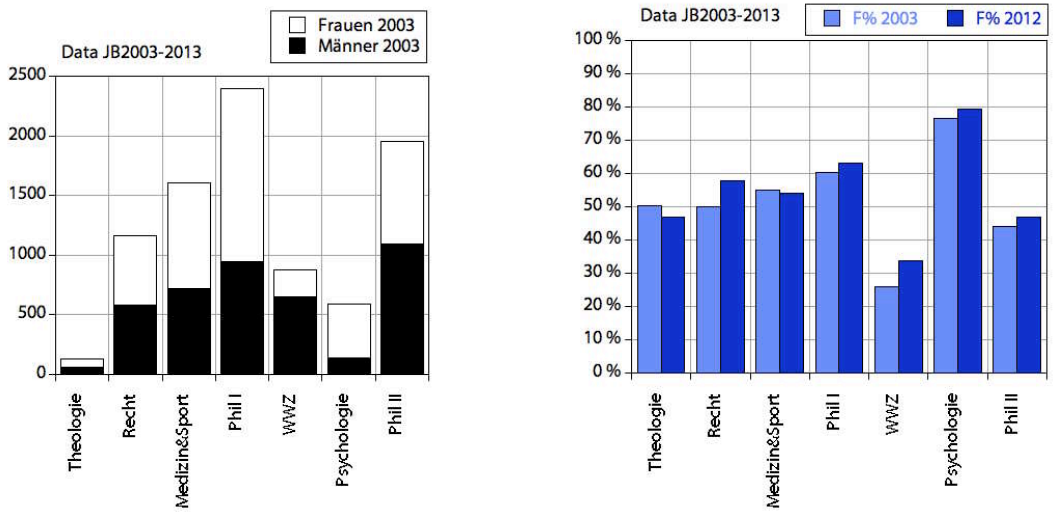
Links: siehe Orden "Bundesamt für Statistik"

Rechts: siehe Ordner "UNIBAS Jahresberichte"

UNIBAS Jahresberichte im Spreadsheet

A C0	Frauen 2003 C1	Männer 2003 C2	F% 2003 C3
Theologie	65	64	50.4
Recht	580	582	49.9
Medizin&Sport	883	719	55.1
Phil I	1450	949	60.4
WWZ	228	653	25.9
Psychologie	455	140	76.5
Phil II	860	1092	44.1
Total	4521	4199	51.8





Zahlen einlesen

Pie Plots - Histograms

Alte Publikationen

Journal of Geophysical Research

Volume 73, Issue 14, 15 July 1968, Pages: 4741–4750, James D. Byerlee

Article first published online : 20 SEP 2012, DOI: 10.1029/JB073i014p04741

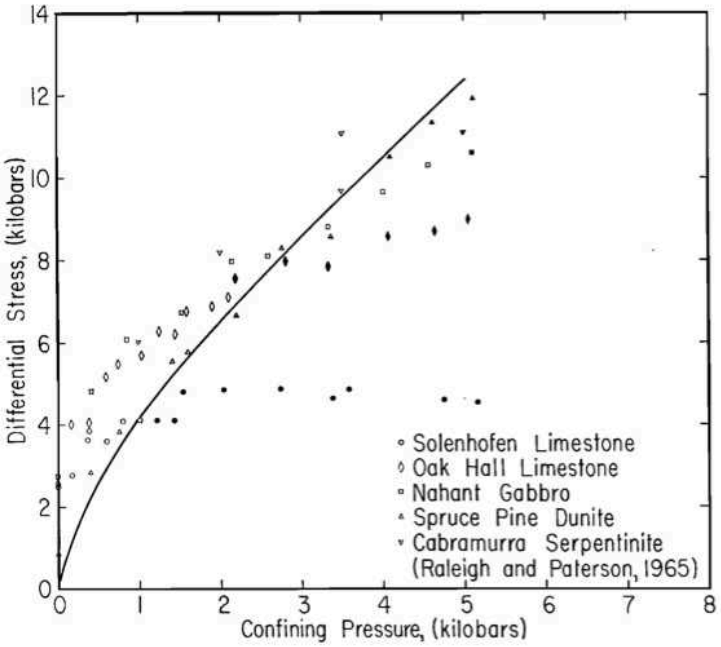
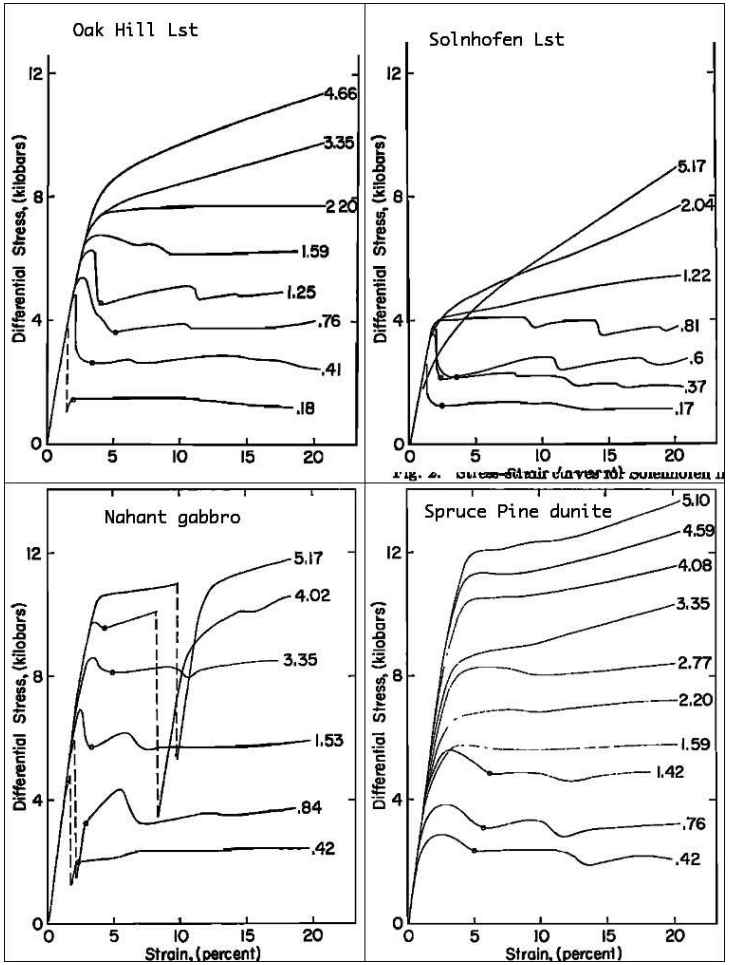


Fig. 5. Differential stress versus confining pressure at fracture or 5% strain if the specimen was ductile. Open symbols indicate brittle behavior; closed symbols, ductile. Solid line is the boundary between the brittle and ductile regions determined from friction data (Figure 6).

Scatter Plot



Line Plots

siehe Orden "Byerlee 1968 revisited"

Daten digitalisieren

Punkte einlesen
Lazy Digitize Curves

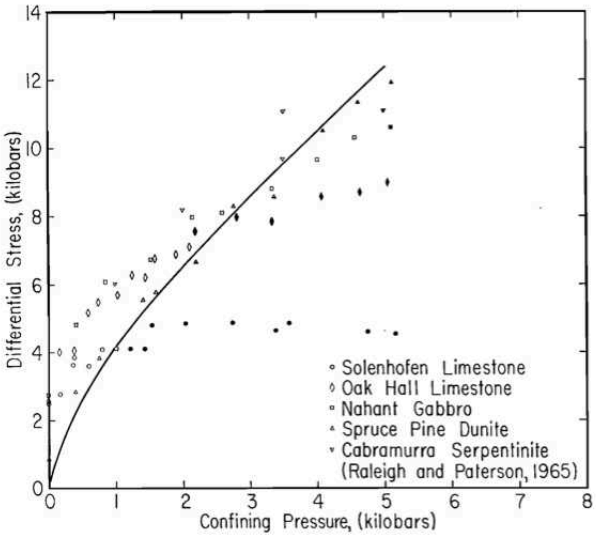
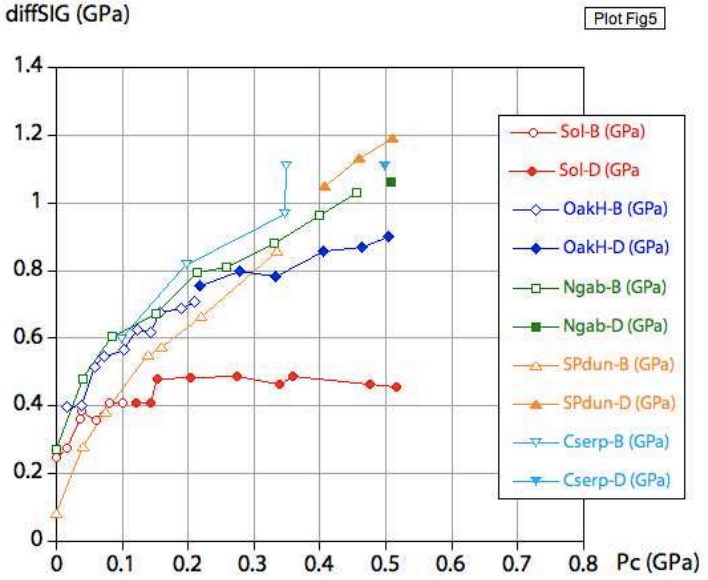
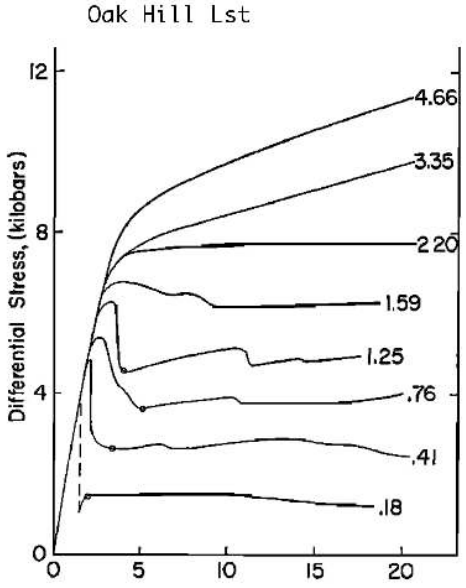
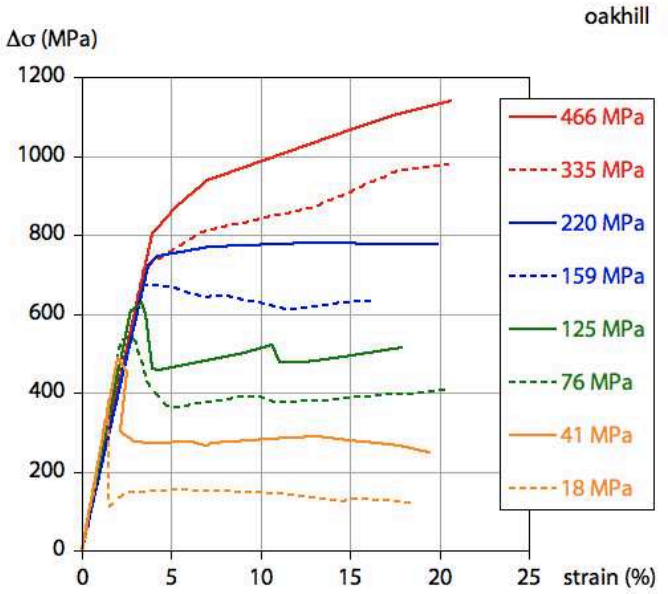


Fig. 5. Differential stress versus confining pressure at fracture or 5% strain if the specimen was ductile. Open symbols indicate brittle behavior; closed symbols, ductile. Solid line is the boundary between the brittle and ductile regions determined from friction data (Figure 6).



Line Plot
Lazy Digitize Curves





wie's gemacht wird

Scatter Plot

Screen shot von Byerlee 1968, Fig. 5
Als TIFF speichern

In Image SXM öffnen
Analyze > Set Scale to Pixel: Check Origin (178 / 1300)

Lazy Digitze Curves laden
[1] Digitze Points
Save Result file

Open in Kaleidagraph
Convert x-axis (confining pressure): c3=(c1-178)/1755
Convert y-axis (diff stress): c4=(1300-c2)/888.57
Plot

Line Plot

Screen shot von Byerlee 1968, Fig. 1
Als TIFF speichern

In Image SXM öffnen
Analyze > Set Scale to Pixel

Lazy Digitze Curves laden
[4] Read cirves silent
Save Result file

Open in Kaleidagraph
Plot

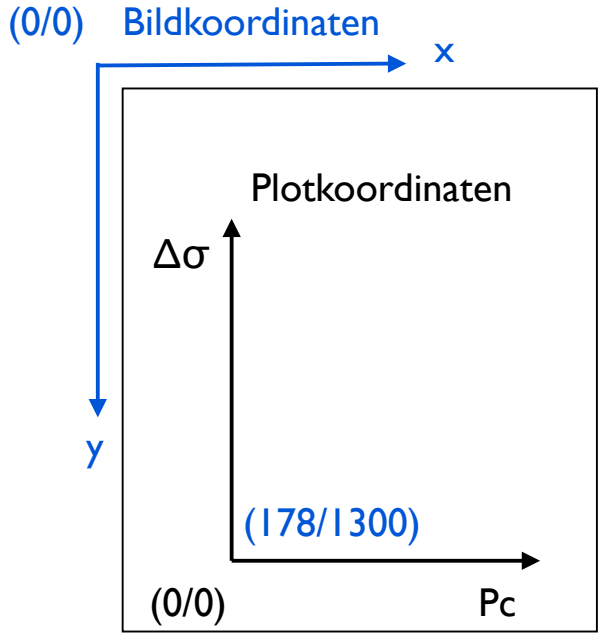


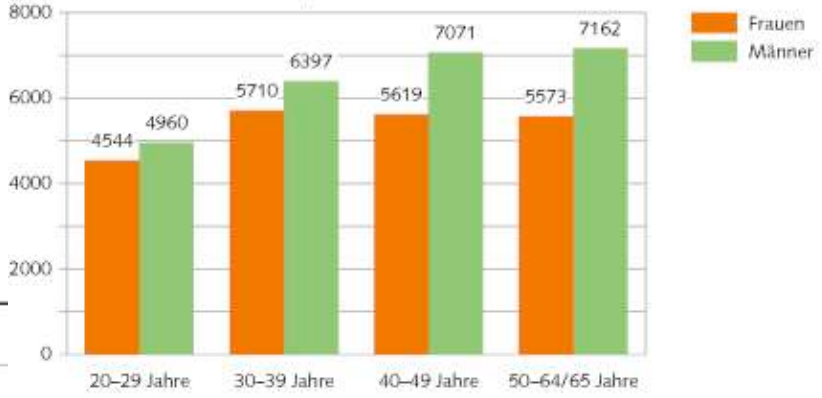
Fig. 5

additional material

http://www.bfs.admin.ch/bfs/portal/de/index/themen/03/04/blank/key/lohnstruktur/nach_geschlecht.html

Monatlicher Bruttolohn nach Alter und Geschlecht 2010

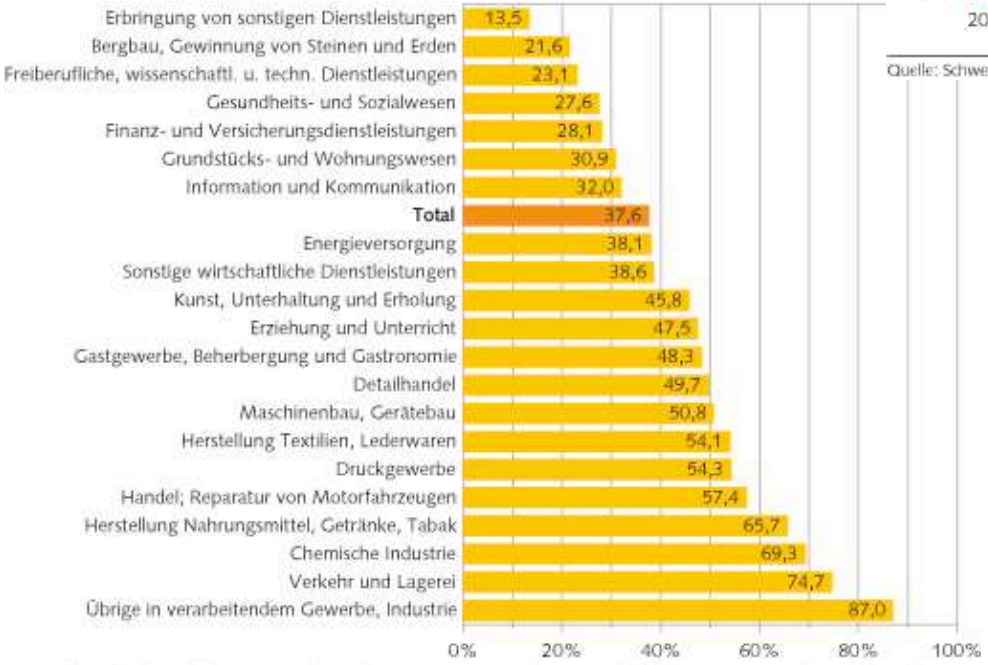
Zentralwert (Median), in Franken – privater und öffentlicher Sektor (Bund) zusammen



Quelle: Schweizerische Lohnstrukturerhebung © BFS

Nicht erklärbarer (diskriminierender) Anteil am Lohnunterschied zwischen Frauen und Männern, 2010

Nach Wirtschaftszweigen, privater Sektor



Die Ergebnisse für die Branchen «Baugewerbe» und «Wasserversorgung, Abwasser- und Abfallentsorgung» werden noch konsolidiert.

Quelle: Schweizerische Lohnstrukturerhebung © BFS

http://www.bfs.admin.ch/bfs/portal/de/index/themen/03/04/blank/key/lohnstruktur/nach_geschlecht.html

TABLE A.25 – Salaires bruts moyens pondérés par sexe et branches d'activité, secteur privé, 2008

	Femmes	Hommes	Différence	Diff. en % des hommes
Alimentation, boisson, tabac	5016.20	6411.81	1395.61	21.77
Textile, cuir	4613.15	6334.74	1721.59	27.18
Edition, travaux d'imprimerie	5914.81	7544.63	1629.82	21.60
Industrie chimique	7845.99	9374.67	1528.67	16.31
Industrie des machines	5430.56	7457.55	2026.98	27.18
Autres industries	5084.57	6279.93	1195.36	19.03
Construction	5552.10	6134.03	581.93	9.49
Commerce de détail	4690.48	5895.07	1204.59	20.43
Hôtellerie	4160.25	4639.07	478.81	10.32
Transport	5235.74	5864.72	628.98	10.72
Poste et télécommunication	6606.77	8800.39	2193.62	24.93
Banques et assurances	7795.02	13089.03	5294.01	40.45
Informatique, services aux entreprises	6080.45	9100.53	3020.08	33.19
Enseignement	7376.23	9033.37	1657.14	18.34
Santé	5937.12	7482.75	1545.62	20.66
Autres services	5981.36	8075.26	2093.91	25.93
Autres	4991.09	6414.16	1423.07	22.19
Total	5634.40	7515.92	1881.51	25.03

Source : ESS 2008, Secteur privé

TABLE C.25 – Salaires bruts moyens pondérés par sexe et branches d'activité, secteur privé, 2010

	Femmes	Hommes	Différence	Diff. en % des hommes
Industries extractives	6216.45	6665.18	448.72	6.73
Ind. alimentaire, boissons, tabac	5051.26	6362.75	1311.49	20.61
Industrie textile/ du cuir	4567.67	6693.32	2125.65	31.76
Impression	5613.06	7239.74	1626.68	22.47
Industrie chimique	8248.89	9515.12	1266.23	13.31
Fab. machines et équipements	5720.77	7653.81	1933.04	25.26
Production et distribution d'énergie	6840.01	8672.98	1832.97	21.13
Prod. et distr. d'eau; gestion déchets	5795.93	6183.97	388.04	6.27
Autres industries et fabrications	5275.56	6473.21	1197.65	18.50
Construction	5678.86	6291.61	612.75	9.74
Commerce; réparation d'automobiles	6537.77	8172.30	1634.53	20.00
Commerce de détail	4829.49	6103.85	1274.36	20.88
Transports et entreposage	5251.68	6143.73	892.05	14.52
Hébergement et restauration	4326.72	4713.89	387.17	8.21
Information et communication	6972.79	9479.52	2506.73	26.44
Activités financières et d'assurances	7853.71	12823.77	4970.06	38.76
Activités immobilières	6302.17	8460.48	2158.30	25.51
Activ. spécialisées, scientifiques, techniques	7104.31	10071.12	2966.81	29.46
Activités de services admin. et de soutien	4554.04	5732.44	1178.40	20.56
Enseignement	7596.20	8983.59	1387.39	15.44
Santé humaine et action sociale	6121.55	7527.22	1405.67	18.67
Arts, spectacles et activités récréatives	5761.36	7073.70	1312.34	18.55
Autres activités de services	5674.98	7988.74	2313.76	28.96
Autres	5156.28	5246.50	90.22	1.72
Total	5814.13	7614.30	1800.17	23.64

Source : ESS 2010, Secteur privé

http://www.bfs.admin.ch

Analyse des salaires des femmes et des hommes sur la base des enquêtes sur la structure des salaires 2008 et 2010

Mandat réalisé pour le compte de l'Office fédéral de la statistique, Neuchâtel

par

Laurent Donzé

Fribourg, le 17 avril 2013

TABLE A.34 – Salaires bruts moyens pondérés par sexe et classes de formation, secteur public (Confédération), 2008

	Femmes	Hommes	Différence	Diff. en % des hommes
Haute école universitaire (UNI, EPF)	9881.75	11636.11	1754.36	15.08
Haute école spécialisée / pédagogique (HES, HEP)	9287.40	10375.13	1087.73	10.48
Formation professionnelle supérieure	8618.48	9536.16	917.67	9.62
Brevet d enseignement	8378.88	9542.09	1163.20	12.19
Maturité	7595.69	8093.54	497.85	6.15
Apprentissage complet (CFC)	6306.94	7117.12	810.19	11.38
Formation acquise en entreprise	6587.94	7347.68	759.74	10.34
Sans formation prof. complète	4878.68	5497.30	618.62	11.25
Autres formations complètes	6131.01	6577.14	446.13	6.78
Non mentionné	6527.33	8413.92	1886.59	22.42
Total	6499.57	7787.41	1287.84	16.54

Source : ESS 2008, Secteur public (Confédération)

TABLE C.36 – Salaires bruts moyens pondérés par sexe et classes de formation, secteur public (Confédération), 2010

	Femmes	Hommes	Différence	Diff. en % des hommes
Haute école universitaire (UNI, EPF)	10341.16	12210.77	1869.61	15.31
Haute école spécialisée / pédagogique (HES, HEP)	9709.81	11174.34	1464.54	13.11
Formation professionnelle supérieure	9054.49	9904.74	850.24	8.58
Brevet d enseignement	8422.80	9582.09	1159.29	12.10
Maturité	7582.27	8295.14	712.87	8.59
Apprentissage complet (CFC)	6406.60	7339.33	932.74	12.71
Formation acquise en entreprise	7176.78	7733.76	556.98	7.20
Sans formation prof. complète	5528.59	6051.85	523.26	8.65
Autres formations complètes	6498.54	7045.07	546.53	7.76
Non mentionné	6383.94	7050.92	666.98	9.46
Total	6929.33	8126.07	1196.74	14.73

Source : ESS 2010, Secteur public (Confédération)

http://www.bfs.admin.ch

Analyse des salaires des femmes et des hommes sur la base des enquêtes sur la structure des salaires 2008 et 2010

Mandat réalisé pour le compte de l'Office fédéral de la statistique, Neuchâtel

par

Laurent Donzé

Fribourg, le 17 avril 2013

TABLE A.42 – Salaires bruts moyens pondérés par sexe et types d'activité, secteur public (Confédération), 2008

	Femmes	Hommes	Différence	Diff. en % des hommes
Fabrication, construction, machines	6620.76	7161.97	541.21	7.56
Achat/vente produits base, équipement, consommation	6211.67	7098.24	886.57	12.49
Activités médicales, sociales, pédagogiques	9144.22	7745.90	−1398.32	−18.05
Nettoyage, hygiène pub., hôtellerie-rest.	4579.55	5703.80	1124.25	19.71
Définition buts et stratégie de l'entreprise	12294.26	14999.80	2705.54	18.04
Comptabilité, gestion du personnel	8273.66	9978.69	1705.03	17.09
Secrétariat, travaux de chancellerie	5766.49	6257.04	490.55	7.84
Autres activités commerciales, administratives	7438.11	8886.18	1448.07	16.30
Logistique, tâches d'état-major	8725.46	10153.84	1428.38	14.07
Expertises, conseils, vente	9832.84	11442.85	1610.01	14.07
Recherche et développement	9108.37	10429.97	1321.60	12.67
Analyse, programmation, "operating"	6706.12	9360.67	2654.55	28.36
Planifier, construire, réaliser, dessiner	8417.99	9243.79	825.80	8.93
Transp. personnes, marchandises, communications	5128.42	6180.31	1051.90	17.02
Services de sécurité, de surveillance	6573.48	7398.35	824.87	11.15
Culture, information, sport, loisirs	9141.98	11220.91	2078.94	18.53
Autres activités	7275.92	7986.39	710.46	8.90
Total	6499.57	7787.41	1287.84	16.54

Source : ESS 2008, Secteur public (Confédération)

TABLE C.44 – Salaires bruts moyens pondérés par sexe et types d'activité, secteur public (Confédération), 2010

	Femmes	Hommes	Différence	Diff. en % des hommes
Fabrication, construction, machines	6909.23	7369.15	459.92	6.24
Achat/vente produits base, équipement, consommation	6344.45	7091.19	746.74	10.53
Activités médicales, sociales, pédagogiques	8405.32	7844.75	−560.58	−7.15
Nettoyage, hygiène pub., hôtellerie-rest.	4783.92	5888.60	1104.68	18.76
Définition buts et stratégie de l'entreprise	13468.81	13637.92	169.11	1.24
Comptabilité, gestion du personnel	7714.10	10261.56	2547.46	24.83
Secrétariat, travaux de chancellerie	6508.83	6773.68	264.85	3.91
Autres activités commerciales, administratives	7719.42	9024.83	1305.41	14.46
Logistique, tâches d'état-major	9508.87	10427.44	918.57	8.81
Expertises, conseils, vente	9350.34	10800.54	1450.20	13.43
Recherche et développement	9521.64	10953.96	1432.32	13.08
Analyse, programmation, "operating"	8687.61	9722.69	1035.08	10.65
Planifier, construire, réaliser, dessiner	9397.80	9579.23	181.43	1.89
Transp. personnes, marchandises, communications	5397.82	6077.47	679.65	11.18
Services de sécurité, de surveillance	6965.42	7916.33	950.91	12.01
Culture, information, sport, loisirs	9704.07	12020.82	2316.75	19.27
Autres activités	7259.42	8288.66	1029.23	12.42
Total	6929.33	8126.07	1196.74	14.73

Source : ESS 2010, Secteur public (Confédération)

(2) Poster

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wenig Platz
viel Lärm

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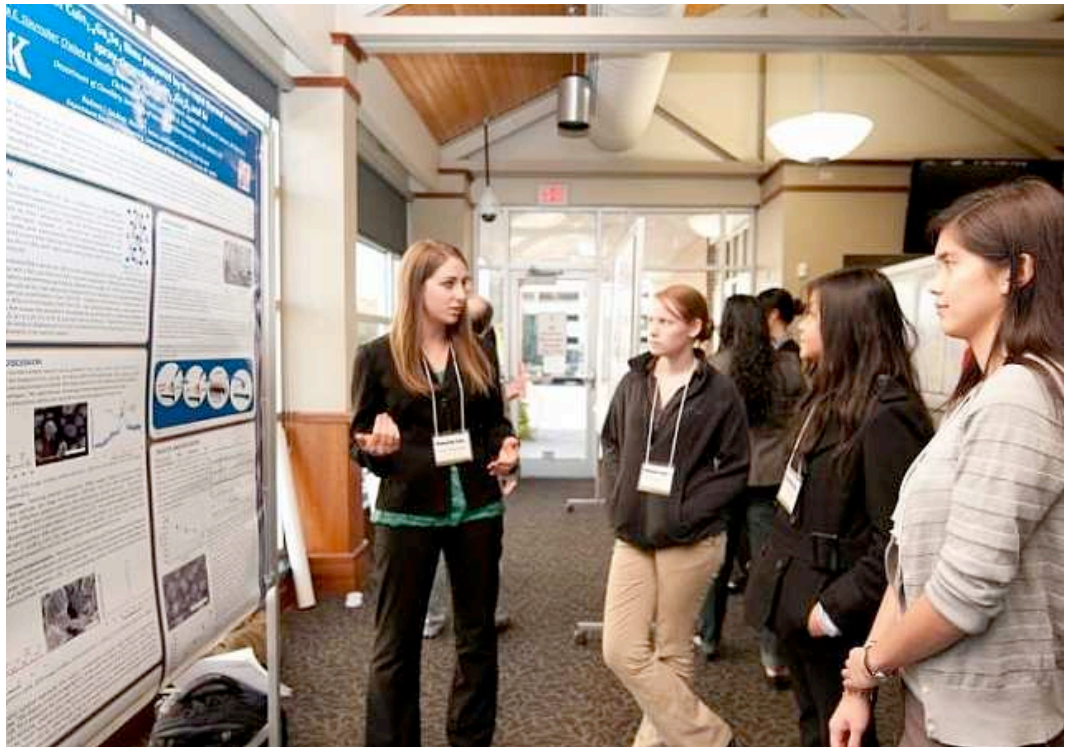
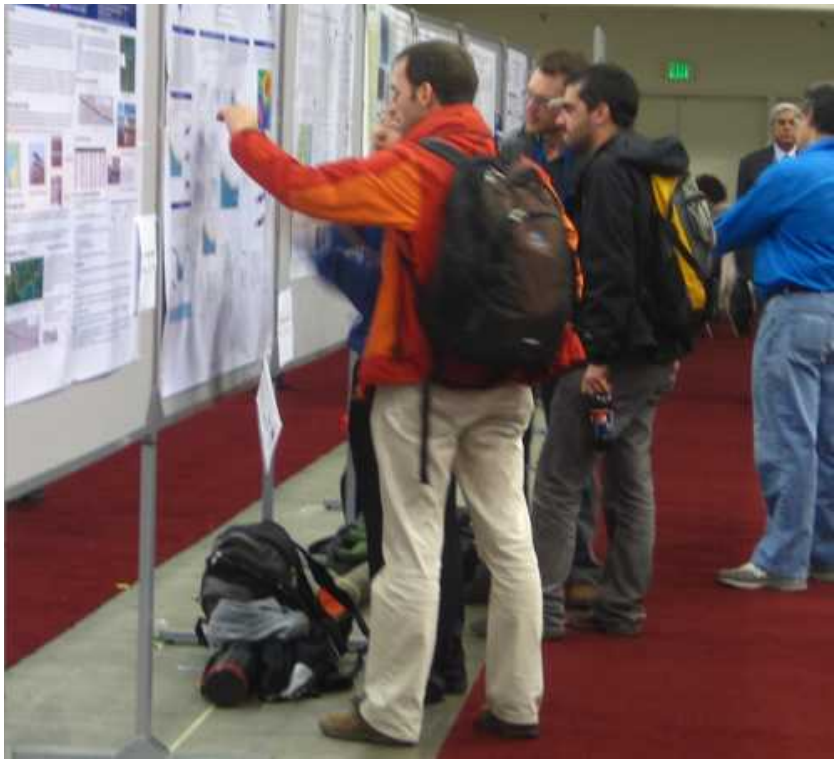


Interaktion



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- Prepare diagrams or charts legibly in a size sufficient to be read at a distance of 2 m.
- Paragraph and figure captions should be at least in a 24-point font (0.9 cm height) and headers at least in a 36-point font (1.2 cm height).
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- Avoid cluttering your poster with too much text.
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- Teilen Sie dem CV mit, ob Sie bar oder per interner Verrechnung zahlen wollen. Ein Poster kostet in Bar CHF 22.– / intern Ver. CHF 20.-
- Sobald das Poster gedruckt ist (ca. 24 Std., frühestens nächster Werktag), werden Sie oder Ihr CV, je nach angegebener Adresse, per E-Mail benachrichtigt. **Wir geben keine telefonische Auskunft über die Fertigstellung des Posters!** Unter Vorlage der Ausdruckbestätigungs-E-Mail können Sie oder Ihr CV das Poster im URZ-Sekretariat abholen und bezahlen (URZ-Sekretariat, Biozentrum, Klingelbergstrasse 70, 1. Stock). Sollte eine andere Person als Sie oder der/die CV das Poster abholen, muss die Ausdruckbestätigung an den Abholenden weitergeben werden. Es werden nur noch Poster gegen Ausdruckbestätigung herausgegeben!
- **Bei Fragen wenden Sie sich ausschliesslich an Ihre CVs.**
  Diese sind Ihre Kontaktpersonen zum URZ.
- Bei **nachweislicher Abwesenheit** des CV und CV-Stellvertreters dürfen die Poster im URZ-Service Desk aufgegeben werden. Dazu gelten folgende Bedingungen: Alle Poster liegen im **PDF-Format auf EINEM Datenträger** vor. Vor der Abgabe des Datenträgers im URZ laden Sie sich dieses Formular herunter und geben es bitte vollständig ausgefüllt mit dem Datenträger ab. Aufgrund des Mehraufwandes für das URZ gelten dann geänderte Preise, d.h., 1. - 3. Poster kosten 50.-/ 40.- / 30.- CHF; ab dem 4. Poster gilt der Normalpreis von 22.-/20.- CHF pro Stück. Die Gebühr kann per Vorkasse bar oder auf Rechnung bezahlt werden.

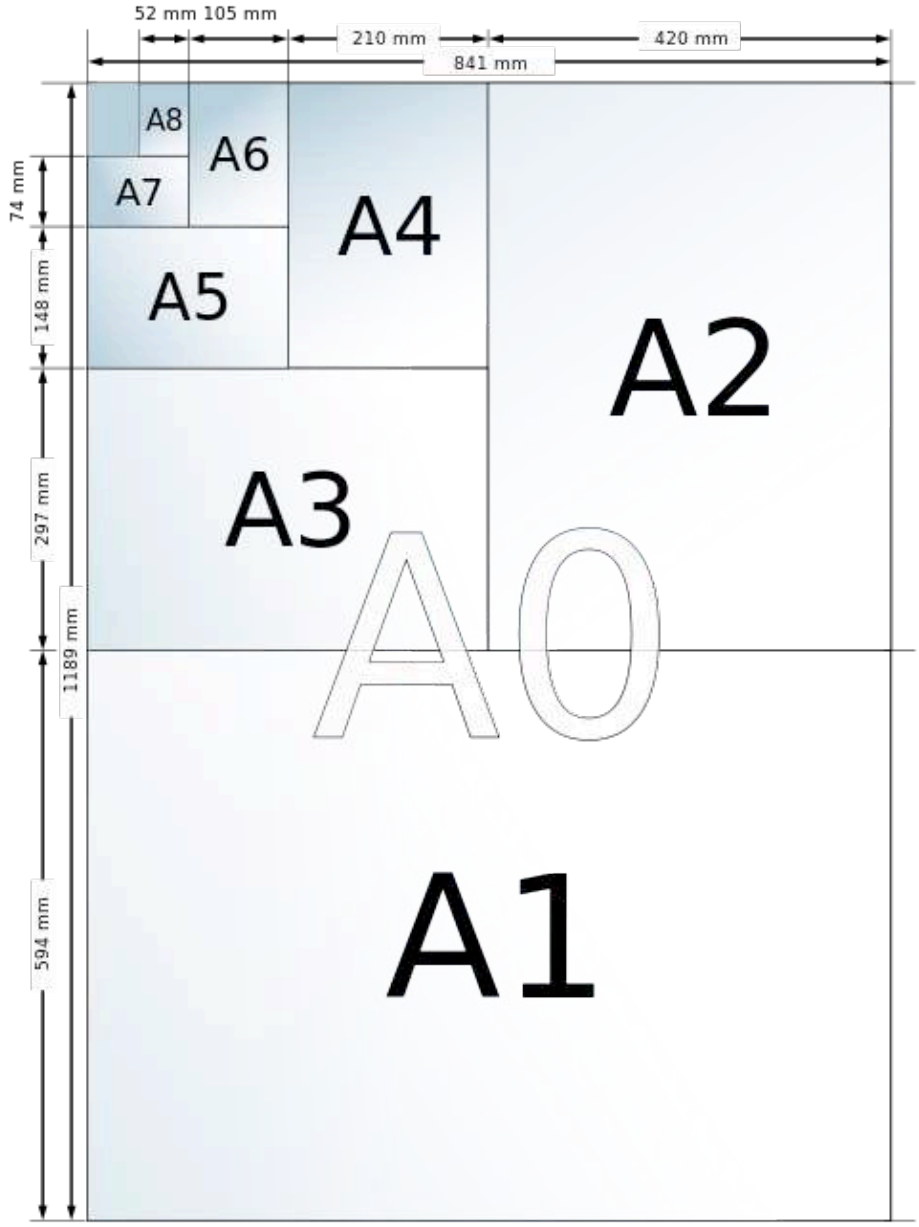
DIN A4 Format

A0 = 1m^2 mit
Seitenverhältnis:
1:$\sqrt{2}$ = 1:1.4142..

≈ 80 cm · 120 cm

ISO/DIN paper sizes in millimetres and in inches

	A Series Formats		B Series Formats		C Series Formats	
size	in mm	in inches	in mm	in inches	in mm	in inches
0	841 × 1189	33.1 × 46.8	1000 × 1414	39.4 × 55.7	917 × 1297	36.1 × 51.1
1	594 × 841	23.4 × 33.1	707 × 1000	27.8 × 39.4	648 × 917	25.5 × 36.1
2	420 × 594	16.5 × 23.4	500 × 707	19.7 × 27.8	458 × 648	18.0 × 25.5
3	297 × 420	11.7 × 16.5	353 × 500	13.9 × 19.7	324 × 458	12.8 × 18.0
4	**210 × 297**	**8.3 × 11.7**	250 × 353	9.8 × 13.9	229 × 324	9.0 × 12.8
5	148 × 210	5.8 × 8.3	176 × 250	6.9 × 9.8	162 × 229	6.4 × 9.0
6	105 × 148	4.1 × 5.8	125 × 176	4.9 × 6.9	114 × 162	4.5 × 6.4
7	74 × 105	2.9 × 4.1	88 × 125	3.5 × 4.9	81 × 114	3.2 × 4.5
8	52 × 74	2.0 × 2.9	62 × 88	2.4 × 3.5	57 × 81	2.2 × 3.2
9	37 × 52	1.5 × 2.0	44 × 62	1.7 × 2.4	40 × 57	1.6 × 2.2
10	26 × 37	1.0 × 1.5	31 × 44	1.2 × 1.7	28 × 40	1.1 × 1.6



http://de.wikipedia.org/wiki/Papierformat

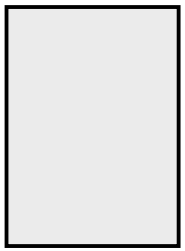
urz.unibas.ch

Wichtig:

- Eingebundene Bilder sollten eine **Auflösung** von 300dpi haben.
- Es darf pro PDF Datei nur 1 Seite, d.h. 1 Poster, enthalten sein.
- Standardmässig werden **Schriftarten** von Adobe Acrobat in die PDF-Datei eingebunden, wenn Ihr Dokument mit MS Office oder InDesign erstellt wurde. Sollten Sie sich nicht sicher sein, schauen Sie im PDF-Dokument unter Datei/Eigenschaften nach, ob alle verwendeten Schriften eingebunden wurden. Einbinden von Schriften in Poster
- Kontrollieren Sie Ihre PDF-Datei unbedingt in der Vollansicht (ganze Seite) und mit 400% Vergrösserung. Achten Sie dabei besonders auf die Bildqualität der Logos und Grafiken.
  Wählen Sie auf dem Printserver die richtige **Orientierung** aus. Für Vorlagen in Querformat/Landscape verwenden Sie die Auswahl "landscape", für Vorlagen im Hochformat/Portrait verwenden Sie die Auswahl "portrait" (siehe Beispielseite für Landscapequer.pdf bzw. Portraithoch.pdf).
- Schicken Sie uns das Poster nur, wenn Sie die obigen Schritte durchgeführt haben und das PDF auf **http://poster.unibas.ch/check** als Erfolgreich deklariert wurde.

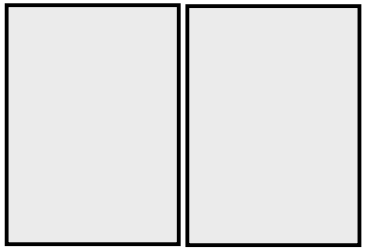
Papierformat: Verwenden Sie für die Vorlage das Papierformat **DIN A4 oder definieren Sie ein Papierformat von 899 x 1250 mm resp. 1250 x 899 mm**. Dieses wird dann auf Oversize A0 vergrössert (ca. 90 cm breit). Bei anderen Papierformaten mit einem anderen Seitenverhältins als DIN-Ax (z. B. US Letter) entsteht unten oder seitlich ein mehr oder minder breiter weisser Rand.

Rollenbreite = 90 cm



90 · 125

125 · 90



180 · 120

urz.unibas.ch

Tipps

Um ein möglichst gutes Druckresultat zu erhalten, beachten Sie bitte die folgenden Punkte.

- Das gedruckte Poster hat immer einen schmalen weissen Rand, auch wenn Ihre Vorlage bis an den Rand geht. Es wird auf Photo Papier Seidenmatt gedruckt.
- Wenn Sie ein Uni-Basel-Logo auf Ihrem Poster platzieren wollen, nehmen Sie eines von diesen: Uni-Logo schwarz auf transparent , Uni-Logo weiss auf transparent.
- **Vermeiden** Sie möglichst **farbigen Hintergrund**.
- Konzipieren Sie Ihre Poster so, dass der Text auf einem A4 Blatt noch lesbar ist (**Schriftgrösse mindestens 6 Punkt**). Erst so ist die Schriftgrösse bei einem A0-Ausdruck von einem Meter Entfernung angenehm lesbar.
- Bedenken Sie, dass der Drucker Farben anders darstellt als der Monitor.
- Der Drucker bietet fotorealistische Qualität und das verwendete Papier ist UV-resistent, dennoch können Farbnuancen auftreten.
- Die Druckresultate sind nicht massstabsgetreu.
- Fassen Sie die Textpassagen zu mehreren kleinen Blöcken zusammen, anstatt einen grossen Textblock zu machen. So vermeiden Sie Komplikationen.

Schriften

A serif font (e.g., Times) is often easier for reading main text

A serif font (e.g., Times New Roman) is often easier for reading main text

A serif font (e.g., Palatino) is often easier for reading main text

a non-serif font (e.g., Arial) for headers and figure labels

a non-serif font (e.g., Helvetica) for headers and figure labels

a non-serif font (e.g., Gills Sans) for headers and figure labels

funny fonts (e.g. Marker Felt) are difficult to read and not recommended

Templates

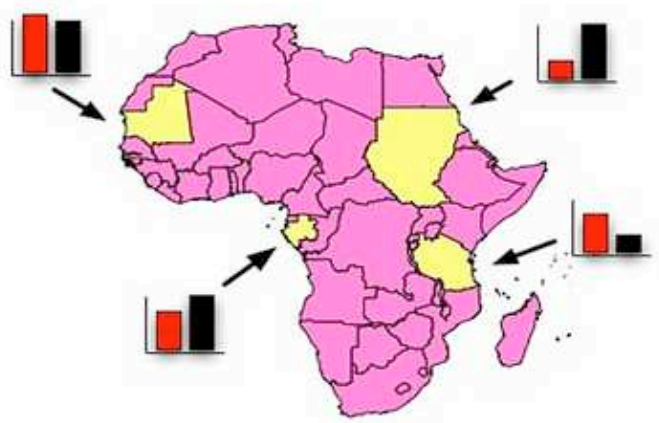
Poster layout that features results and demotes boring sections

Colin Purrington, Hudson University

Introduction

Materials and methods

Results



Results (continued)

Conclusions

Literature cited

Acknowledgements

Further information

http://colinpurrington.com/tips/academic/posterdesign

Title title

Author, Author, and Author
Address(es)

Introduction

Replace the "blah, blah, blah" with your own "blah, blah, blah."

Materials and methods

Blah, blah, blah

Results

Blah, blah, blah

Conclusions

Blah, blah, blah

Literature cited

Blah, blah, and blah. 2012. Blahing, blahing, and more blahing. *Journal of Blahology* 1:1-2.
Blah, blah, and blah. 2012. Blahing, blahing, and more blahing. *Journal of Blahology* 1:1-2.
Blah, blah, and blah. 2012. Blahing, blahing, and more blahing. *Journal of Blahology* 1:1-2.

Acknowledgments

Blah, blah, blah. This file from http://colinpurrington.com/tips/academic/posterdesign. You can erase that URL, of course.

Further information

http://colinpurrington.com/tips/academic/posterdesign -- Ordner "Poster Templates"

Title title

Author, Author, and Author
Address(es)

Introduction

Replace the "blah, blah, blah" with your own "blah, blah, blah."

Materials and methods

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Further information

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Title title

Author, Author, and Author
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Materials and methods
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Results
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Conclusions
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Blah, blah, and blah. 2012. Blahing, blahing, and more blahing. *Journal of Blahology* 1:1-2.

Acknowledgments
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Further information

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Blah, blah, and blah. 2012. Blahing, blahing, and more blahing. *Journal of Blahology* 1:1-2.

Acknowledgments
Blah, blah, blah.

(You can delete this text box after reading.)

This poster template might need to be resized to fit your needs — just do the resizing before you replace the "blah, blah, blah" with your own text and definitely before you add graphics (or they get distorted). If you need guidance on how to craft a poster, go to http://colinpurrington.com/tips/academic/posterdesign.

Also on the site is a file named "scientific-poster-advice-purrington.pdf" that looks like a scientific poster but is actually crammed with poster advice — you can print it small as a handout (if audience is young, with good eyes), or large as a wall poster for students or conference attendees to read, though they probably will do no such thing unless threatened in some way.

Happy posterizing!

Colin Purrington

siehe Ordner "Poster Templates"

DO's and ...

Title, formatted in sentence case (*Not Title Case* and *NOT ALL CAPS*), that hints at an interesting issue and/or methodology, doesn't spill onto a third line (ideally), and isn't hot pink

Colin Purrington
666 Teipai Street, Posterville, PA 19801, USA

Introduction

Your reader was mildly intrigued by the title, but you have exactly two sentences to hook them into reading more. So describe exactly what your interesting question is and why it really needed to be addressed. Gratuitous background information will cause them to walk away.

Typography research has shown that text is easier to read if you use a serif font such as Times. But use a non-serif font for title, headings, etc., to subtly tag them as different. Research has also shown that fully justified text (like this paragraph) is harder to read, so don't do this, even if it seems cool and professional looking.

Figure 1. A catchy photograph can help lure people to your otherwise boring poster. Yes, I risked my life getting this shot.

Materials and methods

Few people really want to know the gruesome details of what you've been up to, so be brief. And be visual. Use a photograph, drawing, or flow chart if possible, supplemented with only a brief overview of your procedure.

If you can somehow attach an object, an iPad, etc., that can involve viewers in active way, do so. Refer to the companion website (see bottom right section) for more ideas if you are creatively challenged.

Figure 2. Hand-drawn illustrations are preferable to computer-generated ones. Just bribe or flirt with an artist to get them to help you out. A photograph of you actually doing something might be nice.

Results

The overall layout in this arena should be visually compelling, with clear cues on how a reader should travel through the components. You might want a large map with inset graphs. Or have questions on left and answers with supporting graphs on right. Be sure to separate figures from other figures by generous use of white space. When figures are too cramped, viewers get confused about which figures to read first and which legend goes with which figure. Cramped content just looks bad, too. The big thing to remember is that a Results section on a poster does not need to look like a Results section on a manuscript, so feel free to be creative.

If you can add small drawings or icons to your figures, do so — those visual cues can be priceless aids in orienting viewers. And use colored arrows or callouts to focus attention on important parts of graphs. You can even put text annotations next to arrows to tell reader what's going on that's interesting in relation to the hypothesis test. E.g., "This outlier was most likely caused by contamination when I sneezed into tube." Also, don't be afraid of using colored connector lines to show how one part of a figure relates to another figure.

Figures are preferred but tables are sometimes unavoidable, like death. If you must include one, go to great efforts to make it look professional. Look in a respected journal and emulate the layout, line types, line thickness, text alignment, etc., exactly. A table looks best when it is first composed within Microsoft Word, then inserted as an Object. Use colored text or arrows to draw attention to important parts of the table.

Paragraph format is fine, but so are bullet lists of results:

- 9 out of 12 brainectomized rats survived
- Brainectomized rats ate less
- Control rats completed maze faster, on average, than rats without brains

This sample results section is way too wordy, in case you were wondering.

Do treatments differ in their effects?

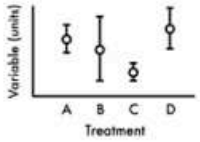


Figure 3. Legends can describe the experiment, answer the question, and even include statistics if you so choose (unlike a manuscript figure legend). And be brief.

Do As and Bs respond differently to X?

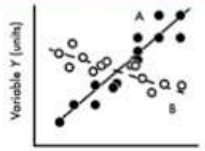


Figure 4. Label elements instead of relying on annoying keys that are defaults on most software. Add pictures of A and B if they are actually things (e.g., icons of aster and begonia flowers).

Are medians of treatment A and D different?

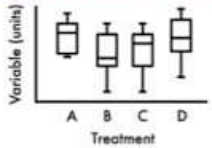


Figure 5. For the love of God, don't be tempted to reduce font size in figure legends, axes labels, etc. Your viewers are probably *most* interested in reading your figures and legends.

Conclusions

Conclusions should not be mere reminders of your results—that would be boring. You want to guide the reader through what you have *concluded* from the results, and you need to make the first several sentences understandable on their own and interesting…because many conference attendees will start reading this section first. If you don't hook them, they'll walk. These first several sentences should refer back, explicitly, to the burning issue mentioned in the introduction. (If you didn't mention a burning issue in the introduction, go back and fix that.)

A good conclusion will also explain how your conclusions fit into the literature on the topic. E.g., how exactly does your research add to what is *already* published on the topic? It's important to be humble and generous in this section, so assume that authors of previous literature may be at the conference, and further assume they are crabby and influential. You can also draw upon less formal types of context such as conversations you have had with smart and important people (God, personal communication).

Finally, you want to tell readers who have lasted this long what needs to be done next, and who should do it. E.g., are you taking the next logical step, or should another discipline follow up on your amazing result? It's OK to put a bit of personality into this ending because viewers expect posters to be personal, and if you're not actually standing there to convey your enthusiasm, your poster should be doing that for you.

If you have a graphical way to express the next iteration of your hypothesis, by all means include it. For example, you might make a graph of hypothetical data that shows an expected result in a future experiment. That's something you couldn't do in a traditional manuscript, but it's totally fine for a poster.

If you're curious, this poster has 876 words (just look in File Properties to get this statistic). Aim for 500 words. If you are above 1000 words, your poster will be avoided.

Literature cited

Bender, D.J., E.M Bayne, and R.M. Brigham. 1996. Lunar condition influences coyote (*Canis latrans*) howling. *American Midland Naturalist* 136:413-417.

Brooks, L.D. 1988. The evolution of recombination rates. Pages 87-105 in *The Evolution of Sex*, edited by R.E. Michod and B.R. Levin. Sinauer, Sunderland, MA.

Scott, E.C. 2005. *Evolution vs. Creationism: an Introduction*. University of California Press, Berkeley.

Society for the Study of Evolution. 2005. Statement on teaching evolution. < http://www.evolutionsociety.org/statements.html >. Accessed 2005 Aug 9.

[Don't just make up a format for your references — follow the standard citation format for your discipline exactly. Trust me, if you deviate from absolute perfection, the Type A citation police will be on you within a few minutes, and it won't be pretty. Note that you should not place a period after the journal name.]

Acknowledgments

We thank I. Güor for laboratory assistance, Mary Juana for seeds, and Herb Isside for greenhouse care. Funding for this project was provided by the Department of Thinkology. [If you want to clutter your poster with annoying logos, shrink them down so that they can fit inside this area without smooshing text too much. Note that people's titles are omitted…titles are TMI.]

Further information

More tips can be found on "Designing conference posters," at http://colinpurrington.com/tips/academic/posterdesign. Note that URLs should always be stripped of any automatic hyperlink formatting (right-click, then "remove hyperlink").

... and DONT's

PIGS IN SPACE: EFFECT OF ZERO GRAVITY AND AD LIBITUM FEEDING ON WEIGHT GAIN IN CAVIA PORCELLUS

Colin B. Purrington
6673 College Avenue, Swarthmore, PA 19081 USA

ABSTRACT:

One ignored benefit of space travel is a potential elimination of obesity, a chronic problem for a growing majority in many parts of the world. In theory, when an individual is in a condition of zero gravity, weight is eliminated. Indeed, in space one could conceivably follow ad libitum feeding and never even gain an gram, and the only side effect would be the need to upgrade one's stretchy pants("exercise pants"). But because many diet schemes start as very good theories only to be found to be rather harmful, we tested our predictions with a long-term experiment in a colony of Guinea pigs (Cavia porcellus) maintained on the International Space Station. Individuals were housed separately and given unlimited amounts of high-calorie food pellets. Fresh fruits and vegetables were not available in space so were not offered. Every 30 days, each Guinea pig was weighed. After 5 years, we found that individuals, on average, weighed nothing. In addition to weighing nothing, no weight appeared to be gained over the duration of the protocol. If space continues to be gravity-free, and we believe that assumption is sound, we believe that sending the overweight — and those at risk for overweight — to space would be a lasting cure.

INTRODUCTION:

The current obesity epidemic started in the early 1960s with the invention and proliferation of elastane and related stretchy fibers, which released wearers from the rigid constraints of clothes and permitted monthly weight gain without the need to buy new outfits. Indeed, exercise today for hundreds of million people involve only the act of wearing stretchy pants in public, presumably because the constrictive pressure forces fat molecules to adopt a more compact tertiary structure (Xavier 1965).

Luckily, at the same time that fabrics became stretchy, the race to the moon between the United States and Russia yielded a useful fact: gravity in outer space is minimal to nonexistent. When gravity is zero, objects cease to have weight. Indeed, early astronauts and cosmonauts had to secure themselves to their ships with seat belts and sticky boots. The potential application to weight loss was noted immediately, but at the time travel to space was prohibitively expensive and thus the issue was not seriously pursued. Now, however, multiple companies are developing cheap extra-orbital travel options for normal consumers, and potential travelers are also creating news ways to pay for products and services that they cannot actually afford. Together, these factors open the possibility that moving to space could cure overweight syndrome quickly and permanently for a large number of humans.

We studied this potential by following weight gain in Guinea pigs, known on Earth as fond of ad libitum feeding. Guinea pigs were long envisioned to be the "Guinea pigs" of space research, too, so they seemed like the obvious choice. Studies on humans are of course desirable, but we feel this current study will be critical in acquiring the attention of granting agencies.

MATERIALS AND METHODS:

One hundred male and one hundred female Guinea pigs (Cavia porcellus) were transported to the International Space Laboratory in 2010. Each pig was housed separately and deprived of exercise wheels and fresh fruits and vegetables for 48 months. Each month, pigs were individually weighed by duct-taping them to an electronic balance sensitive to 0.0001 grams. Back on Earth, an identical cohort was similarly maintained and weighed. Data was analyzed by statistics.

RESULTS:

Mean weight of pigs in space was 0.0000 +/- 0.0002 g. Some individuals weighed less than zero, some more, but these variations were due to reaction to the duct tape, we believe, which caused them to be alarmed push briefly against the force plate in the balance. Individuals on the Earth, the control cohort, gained about 240 g/month ($p = 0.0002$). Males and females gained a similar amount of weight on Earth (no main of effect of sex), and size at any point during the study was related to starting size (which was used as a covariate in the ANCOVA). Both Earth and space pigs developed substantial dewlaps (double chins) and were lethargic at the conclusion of the study.

CONCLUSIONS:

Our view that weight and weight gain would be zero in space was confirmed. Although we have not replicated this experiment on larger animals or primates, we are confident that our result would be mirrored in other model organisms. We are currently in the process of obtaining necessary human trial permissions, and should have our planned experiment initiated within 80 years, pending expedited review by local and Federal IRBs.

ACKNOWLEDGEMENTS:

I am grateful for generous support from the National Research Foundation, Black Hole Diet Plans, and the High Fructose Sugar Association. Transport flights were funded by SPACE-EXES, the consortium of wives divorced from insanely wealthy space-flight startups. I am also grateful for comments on early drafts by Mañana Athletic Club, Corpus Christi, USA. Finally, sincere thanks to the Cuy Foundation for generously donating animal care after the conclusion of the study.

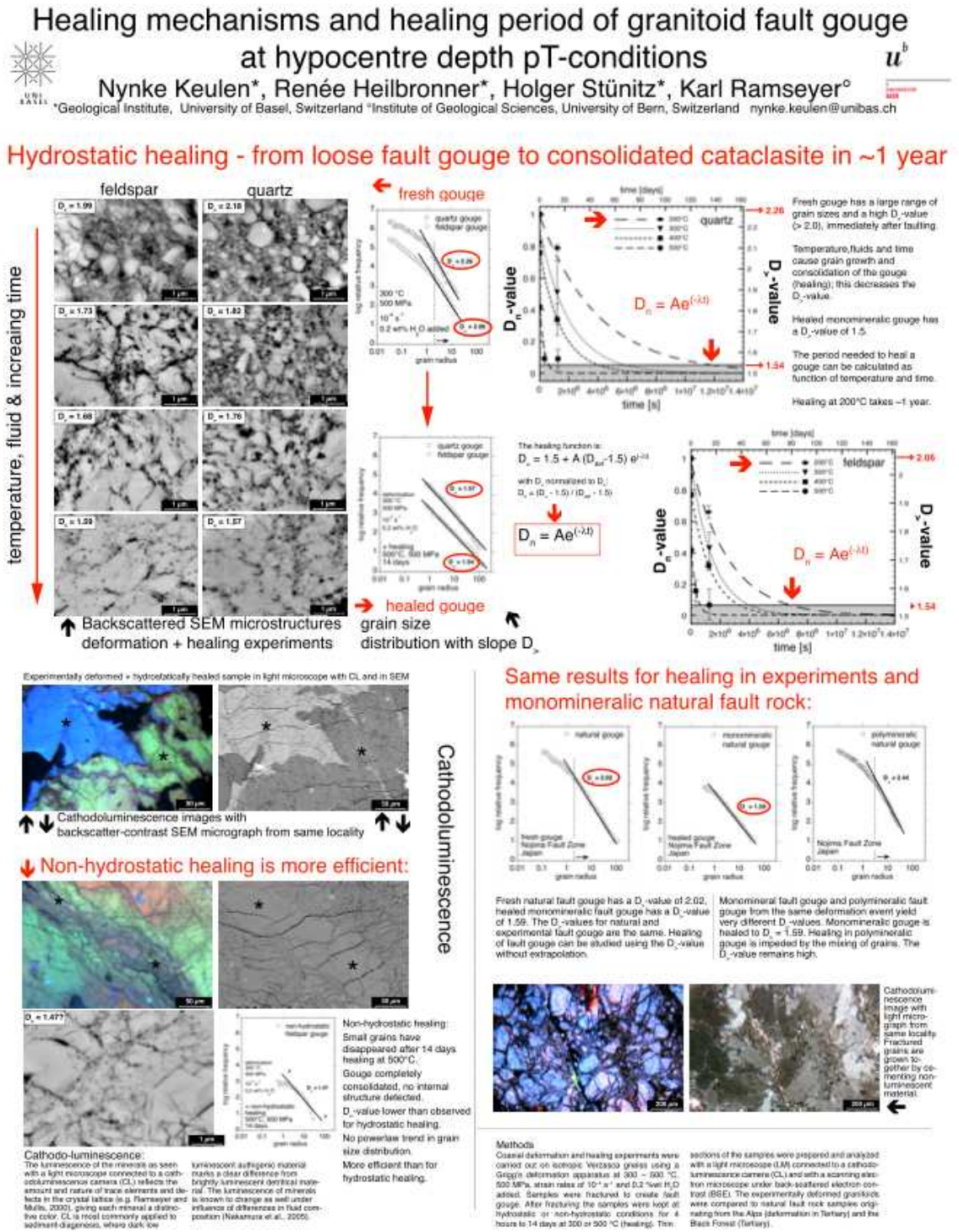
LITERATURE CITED:

NASA. 1982. Project STS-XX: Guinea Pigs. Leaked internal memo.
Sekulić, S.R., D. D. Lukač, and N. M. Naumović. 2005. The Fetus Cannot Exercise Like An Astronaut: Gravity Loading Is Necessary For The Physiological Development During Second Half Of Pregnancy. Medical Hypotheses. 64:221-228
Xavier, M. 1965. Elastane Purchases Accelerate Weight Gain In Case-control Study. Journal of Obesity. 2:23-40.

 http://colinpurrington.com/tips/academic/posterdesign

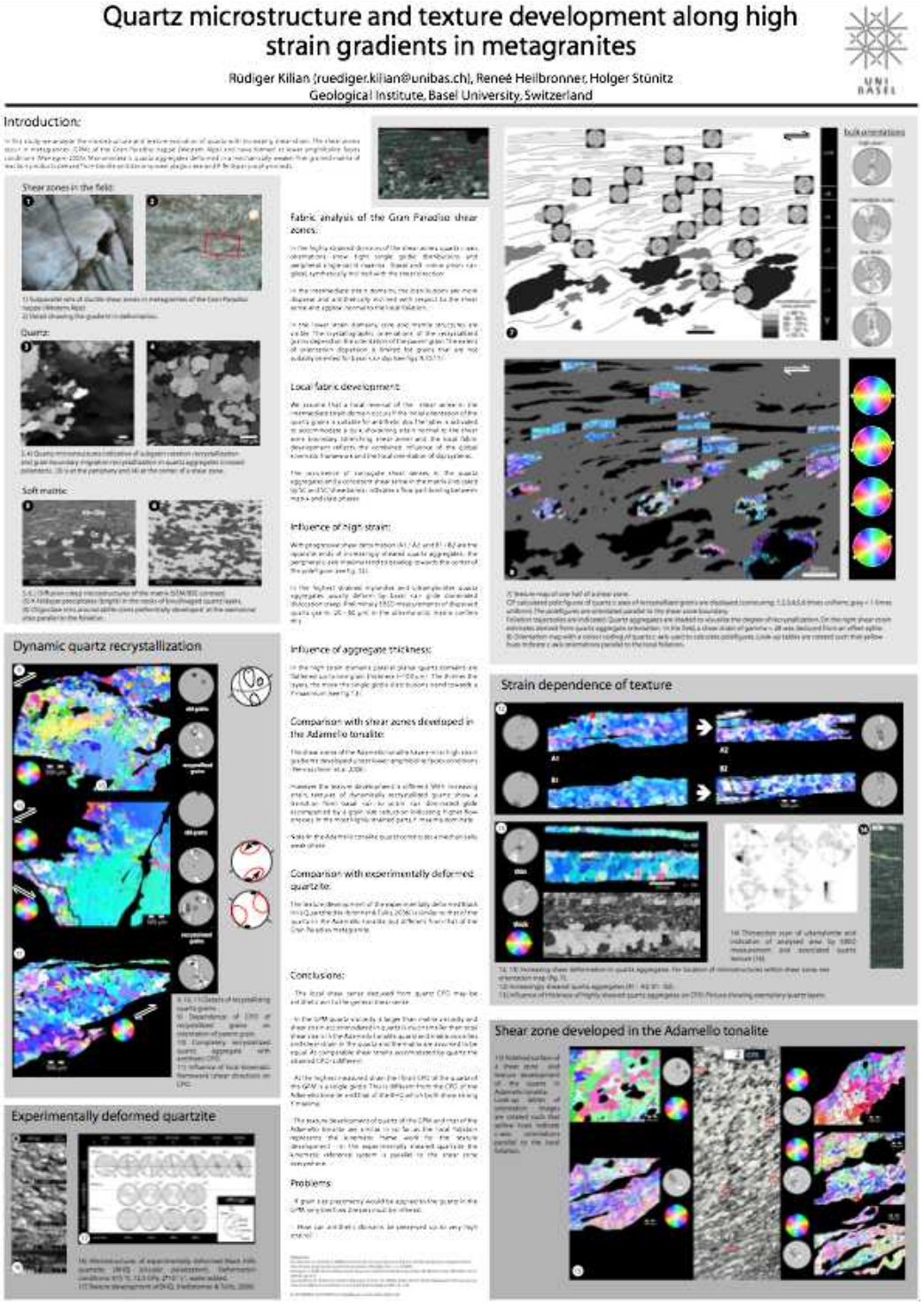
Beispiel

➟ storyboard:
3 major topics



Beispiel

➟ storyboard:
linear
top to bottom



Beispiel

➟ storyboard:
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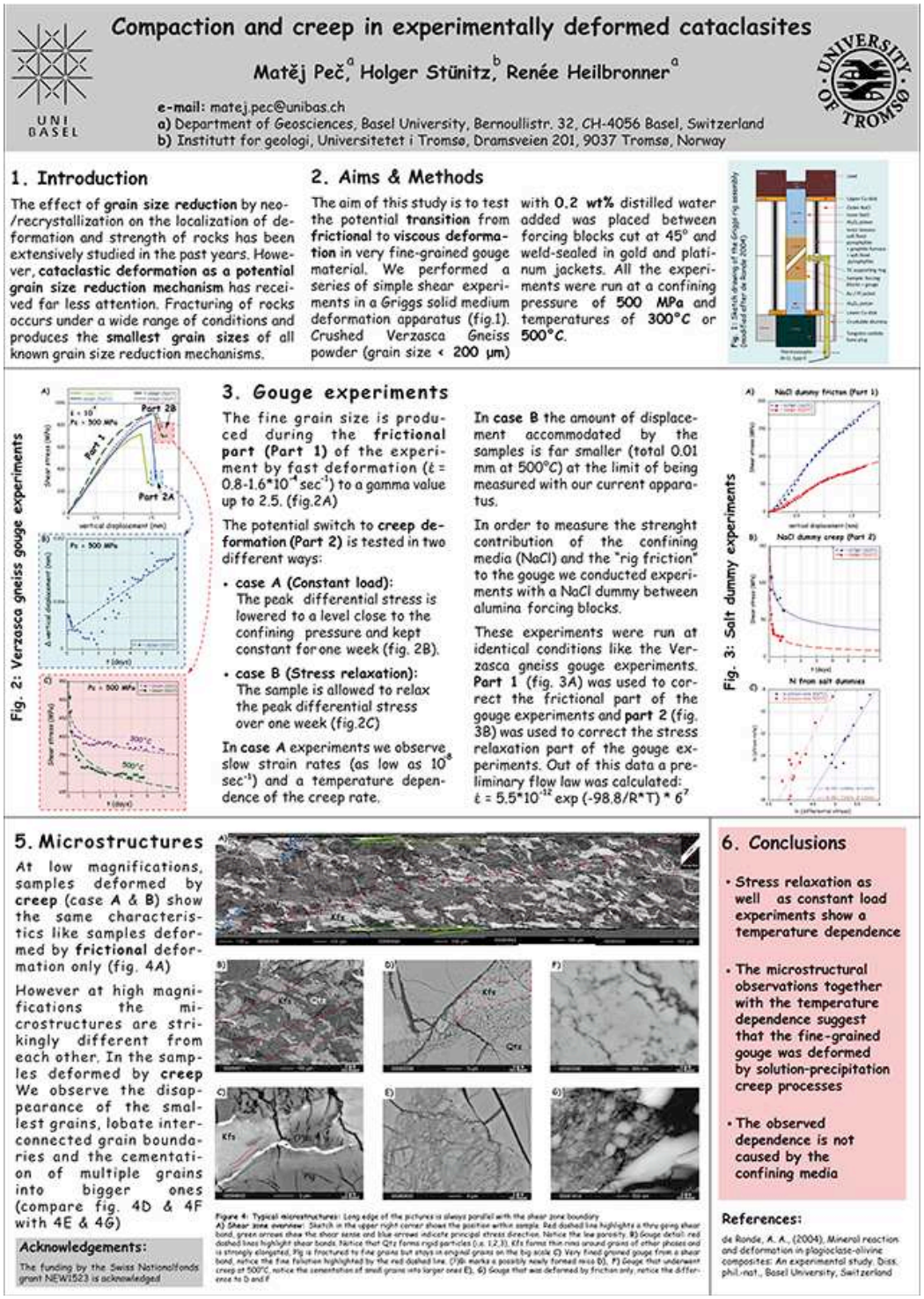
top to bottom



Compaction and creep in experimentally deformed cataclasites

Matěj Peč[a], Holger Stünitz[b], Renée Heilbronner[a]

e-mail: matej.pec@unibas.ch
a) Department of Geosciences, Basel University, Bernoullistr. 32, CH-4056 Basel, Switzerland
b) Institutt for geologi, Universitetet i Tromsø, Dramsveien 201, 9037 Tromsø, Norway

1. Introduction

The effect of **grain size reduction** by neo-/recrystallization on the localization of deformation and strength of rocks has been extensively studied in the past years. However, **cataclastic deformation as a potential grain size reduction mechanism** has received far less attention. Fracturing of rocks occurs under a wide range of conditions and produces the **smallest grain sizes** of all known grain size reduction mechanisms.

2. Aims & Methods

The aim of this study is to test the potential **transition** from **frictional to viscous deformation** in very fine-grained gouge material. We performed a series of simple shear experiments in a Griggs solid medium deformation apparatus (fig.1). Crushed Verzasca Gneiss powder (grain size < **200 µm**) with **0.2 wt%** distilled water added was placed between forcing blocks cut at 45° and weld-sealed in gold and platinum jackets. All the experiments were run at a confining pressure of **500 MPa** and temperatures of **300°C** or **500°C**.

Fig. 2: Verzasca gneiss gouge experiments

3. Gouge experiments

The fine grain size is produced during the **frictional part (Part 1)** of the experiment by fast deformation ($\dot{\varepsilon}$ = 0.8-1.6*10^{-4} sec^{-1}) to a gamma value up to 2.5. (fig.2A)

The potential switch to **creep deformation (Part 2)** is tested in two different ways:

- **case A (Constant load):** The peak differential stress is lowered to a level close to the confining pressure and kept constant for one week (fig. 2B).
- **case B (Stress relaxation):** The sample is allowed to relax the peak differential stress over one week (fig.2C)

In **case A** experiments we observe slow strain rates (as low as 10^{-8} sec^{-1}) and a temperature dependence of the creep rate.

In **case B** the amount of displacement accommodated by the samples is far smaller (total 0.01 mm at 500°C) at the limit of being measured with our current apparatus.

In order to measure the strenght contribution of the confining media (NaCl) and the "rig friction" to the gouge we conducted experiments with a NaCl dummy between alumina forcing blocks.

These experiments were run at identical conditions like the Verzasca gneiss gouge experiments. **Part 1** (fig. 3A) was used to correct the frictional part of the gouge experiments and **part 2** (fig. 3B) was used to correct the stress relaxation part of the gouge experiments. Out of this data a preliminary flow law was calculated:

$\dot{\varepsilon} = 5{,}5*10^{-12} \exp(-98{,}8/R*T) * \sigma^{7}$

Fig. 3: Salt dummy experiments

5. Microstructures

At low magnifications, samples deformed by **creep** (case A & B) show the same characteristics like samples deformed by **frictional** deformation only (fig. 4A)

However at high magnifications the microstructures are strikingly different from each other. In the samples deformed by **creep** We observe the disappearance of the smallest grains, lobate interconnected grain boundaries and the cementation of multiple grains into bigger ones (compare fig. 4D & 4F with 4E & 4G)

Acknowledgements:
The funding by the Swiss Nationalfonds grant NEW1523 is acknowledged

Figure 4: Typical microstructures: Long edge of the pictures is always parallel with the shear zone boundary. A) **Shear zone overview**: Sketch in the upper right corner shows the position within sample. Red dashed line highlights a thru going shear band, green arrows show the shear sense and blue arrows indicate principal stress direction. Notice the low porosity. B) Gouge detail: red dashed lines highlight shear bands. Notice that Qtz forms rigid particles (i.e. 1,2,3). Kfs forms thin rims around grains of other phases and is strongly elongated. Pig is fractured to fine grains but stays on original grains on the big scale. C) Very fined grained gouge from a shear band, notice the fine foliation highlighted by the red dashed line. (?)fo marks a possibly newly formed mica D), F) Gouge that underwent creep at 500°C, notice the cementation of small grains into larger ones E), G) Gouge that was deformed by frichon only, notice the difference to D and F

6. Conclusions

- Stress relaxation as well as constant load experiments show a temperature dependence
- The microstructural observations together with the temperature dependence suggest that the fine-grained gouge was deformed by solution-precipitation creep processes
- The observed dependence is not caused by the confining media

References:

de Ronde, A. A., (2004), Mineral reaction and deformation in plagioclase-olivine composites: An experimental study. Diss. phil.-nat., Basel University, Switzerland

Beispiel

➠ storyboard:
Zeitungsartikel

SWISS GEOSCIENCE MEETING 2008

The Availability of H_2O for Deformation in Natural Quartz Single Crystal Experiments

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** Institute of Geological Sciences, University of Bern, Baltzerstr. 3, CH-3012 Bern, Switzerland
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Introduction:

H_2O is very important for quartz deformation. Experimental studies on synthetic and natural quartz crystals demonstrated that H_2O dramatically reduces the strength of the material (e.g. Griggs & Blacic 1965). We have performed deformation experiments in the solid medium Griggs apparatus on natural milky quartz single crystals in order to study the effect of H_2O weakening.The compression direction has been normal to the <c>-axis and one of the prism planes.

Experiments and H_2O content:

The experiments are carried out on milky quartz material because this materail contain enough H_2O. They show a flow strength of 150 MPa under 1 GPa confining pressure and 900°C with a stain rate of $7*10^{-6}$ s^{-1} (Fig.1). The water content in the *undeformed material* is very heterogeneous and not possilbe to determine in average. Fourier Transform Infrared spectroscopy (FTIR) point measurements (100*100 µm) on the quartz material (clear regions) give an H_2O content of about 50-150 H/10^6Si, in contrast measurements directly on fluid inclusinons show in H_2O conten of 250 times more (Fig.2).

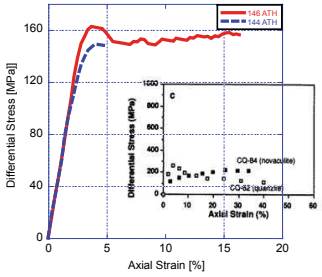


Fig.1: Stress-strain diagram of two experiments (144ATH & 146ATH) at contstant diplacemnet shwoing repreducable data. Next to it tah stress-stain diagram of quartzites and novaculite from Hirth and Tullis (1992) witch show a comparable strnegth.

After deformation the H_2O distribution is more homogenous and the majority of the big inclusions have disappeared and small inclusions are formed and often arranged in fluid clusters (Fig.3b). The H_2O-content of deformed regions with undulatory extinction is approximately 3000 H/10^6Si. We infer that during deformation the inclusions disrupt and form micro cracks. The cracks heal rapidly, during the healing and plastic deformation H_2O is distributed in the quartz crystals via defects and contributes to the H_2O-weakening effect.

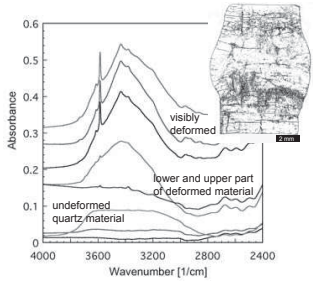


Fig.2: FTIR spectra for undeformed and deformed material. Absorbance is relative. Im the right corner a modified thin section photomicrograph of a deformed sample, where the black clouds show the distribution of fluid inclusions as well as some cracks.

Fluid inclusions:

- Large number of fluid inclusions with a high variation in size an shape (Fig.3a)
- Presence of antarticite ($CaCl_2 \cdot 6H_2O$) and hydrohalite ($NaCl \cdot 2H_2O$)
- Ice melting temperature ranged between - 6.9 and -7.4°C corresponding to an average salinity of 10.5 wt% eq.NaCl
- After deformation the salinity of the inclusions is 20% higer
- Total homogenization temperatures are between 184°C and 207°C
- Small amounts of CO_2 and some accidentally trapped solids like calcite, quartz or rutile

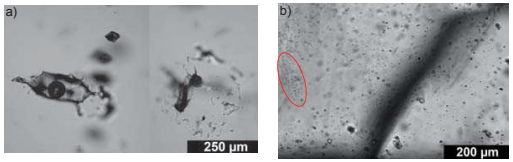


Fig.3: a) Typical fluid inclusions in the undefromed material, with a perfect negative crystal shape (left) or undifinde morphology (right). The surrounding quatz is clear. b) Fluid inclusion distribution in the deformed material much smaller, homoheneous throughout the sample and often arranged in clusters (red ellips).

Conclusions:

1) Start with a two phase meterial, pure dry quartz and H_2O rich fluid inclusions
2) This distribution provides enough H_2O for H_2O weakening
3) The H_2O dispersion becomes more homogeneous during deformation by micro-cracking, crack- healing and subsequent crystal plastic deformation by dislocation glide

♦ Micro-cracking is the necessary precursor step for plastic deformation and H_2O weakening

References:

Hirth, G. & Tullis, J. 1992: Dislocaton creepregimes in quartz aggregates. Journal of Structural Geology. 14, 145-159.
Griggs, D.T. & Balcic, J.D. 1965: Quartz: Anomalous Weakness of Synthetic Crystals. Science 147, 293-295.

Beispiel

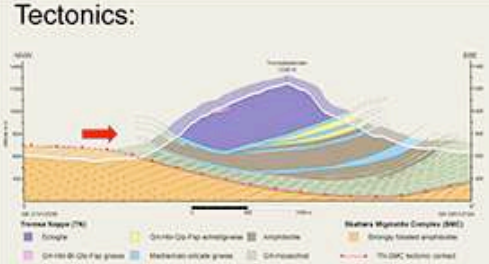
➟ storyboard: 2 major topics

Exhumation of UHP-rocks by dominant diffusion creep in eclogites and amphibolites of the Tromsø Nappe, Northern Norway

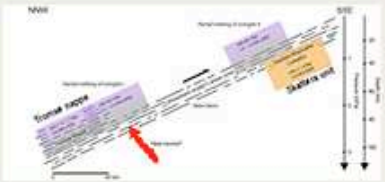
Holger Stunitz (1), James MacKenzie (2), Renée Heilbronner (2), Kåre Kullerud (1), Erling Ravna (1), Steffen Bergh (1)

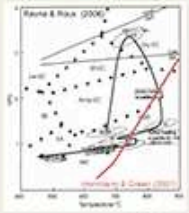
(1) Department of Geology, University of Tromsø, Dramsveien 201, 9037 Tromsø, Norway
(2) Geologisches Institut, Basel University, 4056 Basel, Switzerland

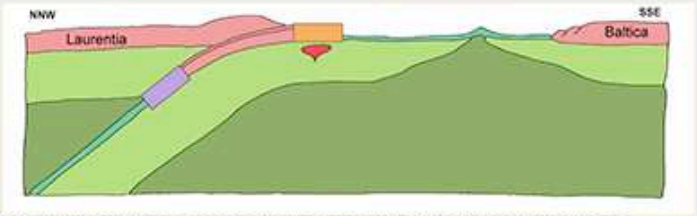
Tectonics:



Cross section of Tromsdalstinden, a major eclogite body of the Tromsø nappe, with the underlying Skattøra unit of mafic migmatites. Transport direction of Tromsø nappe during exhumation is indicated by arrow. The P,T-loop for the eclogite and adjacent rocks shows the different stages of exhumation.



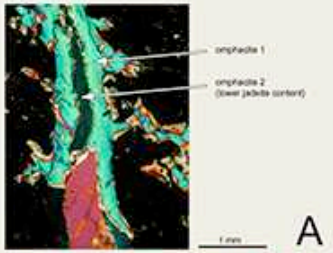




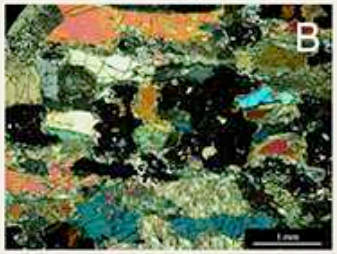
The Tromsø Nappe represents the uppermost unit of the Northern Norwegian Caledonides nappe pile and is regarded as part of the Laurentian continental margin. Its present position is caused by thrusting of continental margin sediments together with mafic rocks onto high temperature mafic migmatites (Skattøra unit) of Laurentian origin. Thrusting took place after subduction, reaching UHP conditions in the Troms Nappe. Together, these Laurentian units were thrust onto Baltica during exhumation.

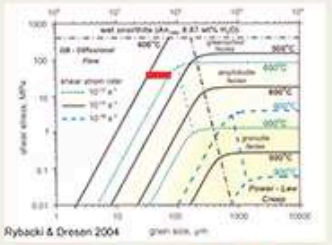
Deformation mechanisms:

Crack-seal and solution-precipitation microstructures indicate diffusion creep during the eclogite facies: A. Two-stage omphacite vein forming during decompression in a pull-apart garnet (black). B. Fragmented garnet (black) with extension omphacite fibres growing in between fragments. C. Asymmetric garnet growth (note spherical cores) leads to elongate garnet shapes (parallel to extension direction). Amphibolite Facies: D,E. Fine grained mixtures of plagioclase and other phases (grain size 30 to 80 μm) also indicate diffusion creep. Deformation temperature 500 to 600C.



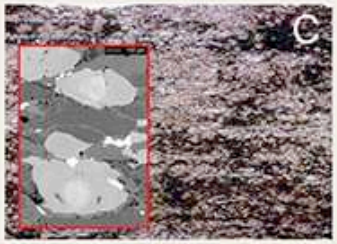
Back-of-the-enevelope-calculations for the exhumation show that the strain rates for the deformed rocks should be on the order of 10^{-12} to 10^{-10} s^{-1}.

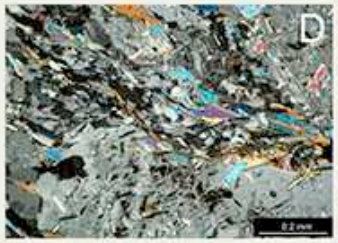


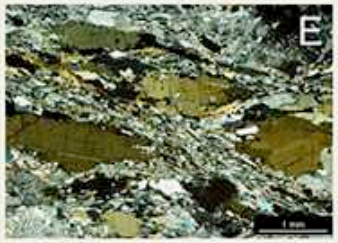


Conclusions and summary:

The determined grain sizes and deformation temperatures during the amphibolite facies stage of the exhumation (red bar) are consistent with estimated strain rates and inferred deformation mechanism of diffusion creep at stress levels of 20 – 30 MPa when plotted in the deformation mechanism map for wet plagioclase (Rybacki & Dresen 2004). For the eclogite facies stage, deformation temperatures are higher and strain rates may be expected to be even faster.







Beispiel ➟ storyboard: 4 topics & conclusions

Texture and microstructure development in experimentally sheared synthetic quartz single crystals

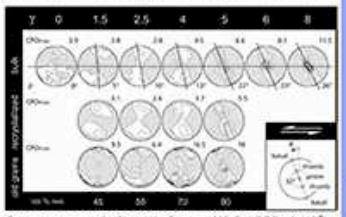
Jun Muto, Jan Tullis (Brown Univ.) & Renée Heilbronner (Univ. Basel)

BROWN UNI BASEL

1. Introduction

Most naturally deformed quartz aggregates are substantially or completely recrystallized, but it is not clear how dynamic recrystallization affects the LPO development during progressive deformation. The LPO developed at low temperature shows only a slight change in pattern with recrystallization; a broad peripheral maximum rotated with the sense of shear [1]. At high temperature (equivalent to regime 3 dislocation creep involving rapid grain boundary migration recrystallization), the LPO changes from an asymmetric single girdle to a single maximum at Y of the finite strain ellipsoid (i.e., Y maximum fabric) with increasing shear strain and dynamic recrystallization [2]. However, when quartzites are used as the starting material in experiments, the relationship between the orientation of host grain and recrystallized grains, and hence the mechanism by which recrystallization produces a Y maximum fabric, is not clear.

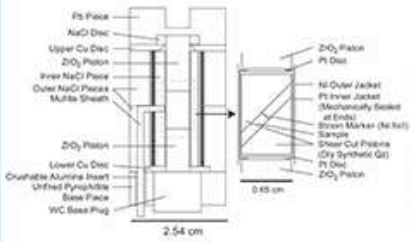
In order to clarify how dynamic recrystllization affects quartz c-axis LPOs, we have undertaken an experimental study using single crystals of relatively 'wet' synthetic quartz, using different crystal orientations in general shear (simple shear and thinning).

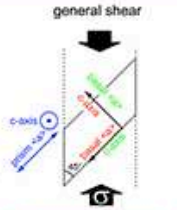


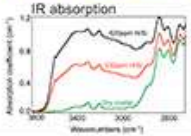
General shear expts for Black Hills Quartz at 900°C, 1.5 GPa, $\dot{\gamma} \sim 10^{-5}$/s. Heilbronner & Tullis (2006) JGR doi:10.1029/2005JB004194

2. Experimental Methods

All expts were conducted in a Griggs apparatus at T of 900°C, P = 1.5 GPa, $\dot{\gamma} \sim 10^{-5}$/s.

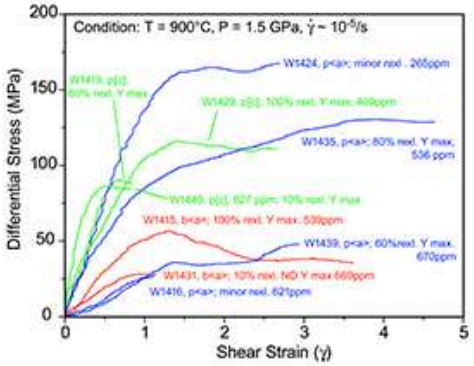






Samples: synthetic quartz single crystals grown by Nihon Denpa Kogyo (Tokyo, Japan)
Water contents: 300 ~ 650 ppm H/Si (molecular H_2O)

3. Mechanical Data



Strength of crystals of different orientations with ~ 650 ppm H/Si:

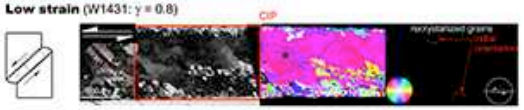
prism <a> ~ basal <a> < prism [c]

For basal <a> and prism [c] samples, the thinning component of deformation rotates the c-axis from the original orientation and activates other slip systems (see microstructures).

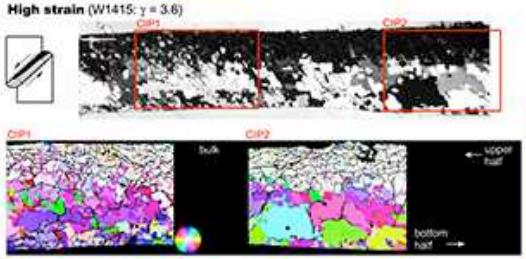
4. Microstructures

4. 1. Basal <a> orientation

Low strain (W1431: $\gamma = 0.8$)



High strain (W1415: $\gamma = 3.6$)

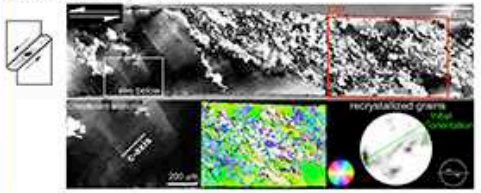


Low strain ($\gamma \sim 1$): rotation of c-axis and chessboard extinction (subgrains involving a combination of basal <a> and prism [c] slip).

High strain ($\gamma \sim 3.5$): almost complete recrystallization with a strong Y max (prism <a>) domain. Other recrystallized domains have grains with basal <a>, rhomb <a> and prism [c] orientations and larger grain sizes, probably due to strain partitioning into weaker Y max grains.

4. 2. Prism [c] orientation

Low strain (W1419: $\gamma = 0.8$)



Intermediate strain (W1429: $\gamma = 2.6$)

Low strain ($\gamma \sim 1$): chessboard extinction and 60% recrystallization with a very small volume fraction of Y max fabric.

Intermediate strain ($\gamma \sim 2.5$): complete recrystallization with irregular Y max domains.

4. 3. Prism <a> orientation

Intermediate strain (W1439: $\gamma = 2.9$)

High strain (W1435: $\gamma = 4.6$)

Low to intermediate strain ($\gamma < 2.5$): deformation lamellae and subgrains (prism <a> double slip) and minor recrystallization.

Intermediate to high strain: At $\gamma \sim 3$, 60 % recrystallization; most recrystallized grains have basal <a>, prism [c] or rhomb <a> orientation with a small volume fraction of Y maximum. At $\gamma \sim 4.5$, 80 % recrystallization; the volume fraction of the Y maximum domain makes up 2/3 of recrystallized grains.

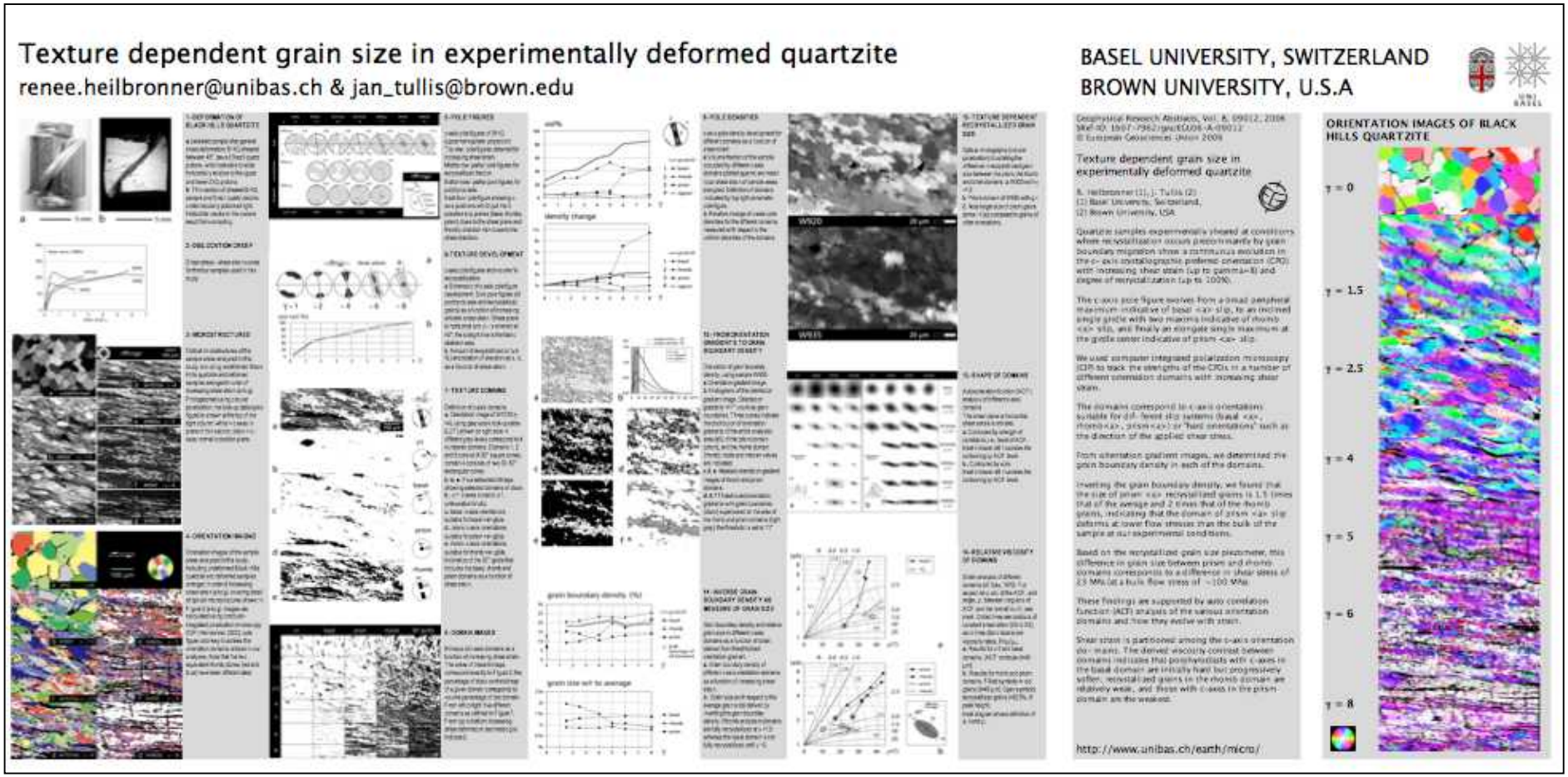
5. Conclusions

Prism <a> slip system has a lower Schmidt factor than other slip systems for basal <a> and prism [c] starting orientations. Grains with high Schmidt factors (i.e., oriented for basal <a> or prism [c] slip) are selectively deformed, leading to high dislocation density. Therefore, the development of prism <a> (Y max) domains with increasing shear strain and degree of dynamic recrystallization indicates that the LPO transition needs a certain amount of strain before the difference in dislocation density builds up enough for the 'weaker' prism <a> grains to replace other grains by grain boundary migration.

References: [1] Heilbronner, R. and J. Tullis (2002) *Geol. Soc. London Spec. Pub.*, **200**, 191. [2] Heilbronner, R. and J. Tullis (2006) *J. Geophys. Res.*, **111**, B10202.

Beispiel

➠ storyboard: linear - read paper (figure captions)



Abstract

Beispiel vom Internet

Gap-Crossing Decisions by Red Squirrels in Fragmented Forests

Victoria J. Bakker, *University of California, Davis*

Objective

To study factors for decisions by red squirrels (*Tamiascirurus hudsonicus*) to cross gaps in fragmented forests.

Forest-clearcut edge at central Mitkof Island study site, Tongass National Forest, Alaska. Logging is the primary land use.

Rationale

- Knowing how mammals move in fragmented forests can aid in location of reserves and corridors.
- Questions exist about which factors control decisions of mammals to cross gaps in their preferred habitats.

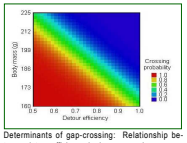
Translocation of individual squirrels across gaps for release and subsequent tracking.

Hypotheses

- Efforts to minimize predation risk, energy expenditures, or encounters with territorial conspecifics were hypothesized to control crossing decisions.
- Predation risk was assumed higher in clearcuts than in forests because of lower overstory cover and lack of trees for escape.
- Energy expended per distance traveled was assumed higher in clearcuts due to higher shrub stem densities.
- Conspecific encounter rates were lower in clearcuts than forests.

Methods

- Documented home ranges and territorial behaviors of squirrels living near clearcuts less than 10 years old.
- Induced movement by translocating individuals across gaps.
- Used radio-telemetry to document homing paths.
- Conducted call-back surveys along clearcut perimeters to determine conspecific defense levels.
- Used logistic regression to relate extrinsic factors, such as gap size, and intrinsic factors, such as body mass, to gap crossing probability.



Determinants of gap-crossing: Relationship between detour efficiency, body mass, and gap-crossing probability, based on logistic regression.

Results and Discussion

- Of 30 squirrels translocated at 5 clearcuts, 11 crossed clearcuts and 19 detoured along forested routes.
- Gap crossing probability was inversely related to squirrel body mass and detour efficiency (η_D):

$$\eta_D = \frac{\text{Direct distance home}}{\text{Indirect distance home}}$$

- Lighter squirrels were more likely to cross clearcuts. Squirrels in poor condition may take more risks when moving.
- Squirrels were more likely to cross if detours were long, suggesting that squirrels assess distances of detours and that predation risk, energetics, or both influence crossing decisions.
- Squirrels choosing forested routes avoided the route with the greatest number of highly defended territories.
- Non-significant factors were crossing distance, clearcut size, clearcut age, and individual's territorial behavior.

Acknowledgments:
U.S. Environmental Protection Agency
Office of Research and Development

Proposal to Study the Effects of Woody and Herbaceous Vegetation on Streambank Erosion

Tess Wynn, *Virginia Tech*

Justification for Study

Streambank erosion can be a large source of sediment, as much as 80% of the total watershed sediment yield [1, 2].

Sediment is the primary pollutant of rivers [3, 4]

Streambank erosion also causes
- Increased flooding
- Increased need for dredging
- Undermining of in-stream structures
- Degradation of reservoirs

Collapse of near vertical bank after high flows have scoured the toe of the bank.

Objectives of Proposed Research

Compare the effects of woody and herbaceous vegetation on
- Stream hydraulics at bankfull discharge
- Soil moisture and temperature regimes
- Soil strength

Methods

(1) Perform monitoring at two field locations on a stream near Blacksburg, Virginia. Locations will have sections with herbaceous and wooded riparian buffers.
(2) Continuously monitor the following:
- Air temperature and precipitation
- Stream stage
- Soil moisture and temperature

(3) Sample the following:
- Suspended sediment (weekly)
- Bank material (texture, friction angle, root area ratios)

(4) During two storms with 1-2 year return periods, measure the following:
- Stream velocity and discharge
- Sediment concentration
- Bedload

Background: Grass Versus Trees

Research has shown that streams are significantly narrower with grass buffers than with forested buffers [5, 6]. The photos below support this finding.

Two adjacent stable reaches of Spruce Run, an alluvial stream near Newport, Virginia: (top) riparian buffer of meadow grass; (bottom) buffer dominated by trees and shrubs.

References

[1] Trimble, S. W., "Contribution of Stream Channel Erosion to Sediment Yield from an Urbanizing Watershed," *Science*, vol. 278 (1997), pp.1442-1444.

[2] Simon, A., A. Curini, S. Darby, and E. J. Langendoen, "Streambank Mechanics and the Role of Bank and Near-Bank Processes in Incised Channels," in *Incised River Channels: Processes, Forms, Engineering and Management*, ed. by Darby, S. E., and A. Simon (Chichester: John Wiley and Sons, 1999) pp. 123-152.

[3] US EPA. *National Water Quality Inventory: Report to Congress* (USEPA: Washington, DC.: US EPA, 1990).

[4] US EPA, *Managing Nonpoint Source Pollution: Final Report to Congress on Section 319 of the Clean Water Act* (Washington, D.C.: US EPA, 1990).

[5] Trimble, S. W., "Stream Channel Erosion and Change Resulting from Riparian Forests," *Geology*, vol. 25, no. 5 (1997), pp. 467-469.

[6] Clifton, C., "Effects of Vegetation and Land Use on Channel Morphology," in *Practical Approaches to Riparian Resource Management: An Educational Workshop*, ed. by Gresswell, R. E., B. A. Barton, and J. L. Kershner (Billings, Montana: USDI/BLM, May 8-11, 1989), pp. 121-129.

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U.S. Environmental Protection Agency
Office of Research and Development
Science to Achieve Results Program
Grant No. 91534101

Particles in Microdischarge Plasma: Coulombic Interactions and Optical Effects

Daniel Cho, Optical Physics and Engineering Laboratory – Nano-Cemms, University of Illinois

Objective

Coulombic interactions of micron~sized particles were studied inside a microplasma. Studying the formation of Coulomb crystals and particle interactions may help characterize the microplasma and help improve device performance.

Background – Microdischarge Devices

High electric fields, driven by AC or DC source, generate localized microplasma. The latest design of microdischarge devices utilizes the dielectric property of alumina (Al_2O_3).

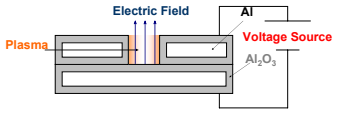


Figure 1. Microdischarge Device with Alumina Layers

Background – Dusty Plasma Physics

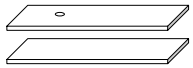
Particles in plasma can form a stabilized configuration known as a Coulomb crystal. Most formation occurs near plasma-sheath boundary, where the electric field is strong.

1. Ions and Electrons – Negatively Charged Surface

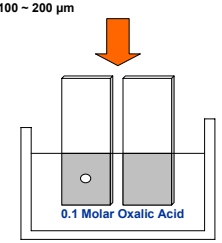
2. Ions and Surface – Strong Electric Field

Figure 2. Formation of Plasma-Sheath Boundary

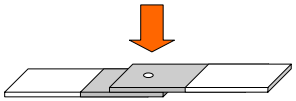
Fabrication



1. Two Aluminum Substrates:
Top substrate mechanically drilled to diameter of 100 ~ 200 μm



2. Anodization:
The time length of anodization controls the thickness of Al_2O_3 layer. Thickness > 10 μm



3. Bonding:
Top and bottom substrates are bonded using Al_2O_3 paste and baked in a high temperature oven

Figure 3. Device Fabrication Process

Experiment

Particles Placed in Microcavities:
- **Ho:YLF Crystals**
- **Green Phosphor**
- **Ferromagnetic Microspheres**

Gases Filled in Vacuum Chamber
- **Ne_2**
- **He_2**
- **Ar_2-N_2**

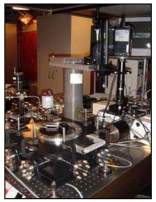


Figure 4. Vacuum Chamber

Results

- **Ho:YLF Crystals: Low emission**
  No discernable movement
- **Green Phosphor: Clear emission**
  Distinct particle movement
  but no stable configuration
- **Ferromagnetic Microspheres:**
  Bright white light emission
  Unable to track movement

Acknowledgments

I would like to acknowledge Dr. Gary Eden, my faculty sponsor, and Dr. Sung-Jin Park, my graduate mentor.

deutlich weniger drauf

Aufgabe 2

Poster

Mitbringen

- Bild- und Textmaterial
  - Halbton und Strichvorlagen
- Quelle:
  - Master- oder Bachelorarbeit
  - Projekt oder Semesterarbeit

Aufgabe

1. Grafik-Vorlagen aufbereiten (Kaleidagraph, Photoshop, etc.)
2. Poster entwerfen (Keynote, Open Office, Powerpoint)
   - Storyboard
   - Raster

→ Abgeben bis 17. Januar 2014

(3) Persönliche Webseite

Webseite (Web page) und on-line Lebenslauf (CV)

Web Page für den "wissenschaftlichen Hausgebrauch"

1. Personal oder Group Home Page
2. Manual
3. Darstellung wissenschaftlicher Resultate
4. On-line CV
5. Werbung

Wichtigste Aspekte eines Lebenslaufs (CV)

wie mach ich's ?

Web Design Template übernehmen

- Google: web CV

Aus einem Word oder Präsentationsprogram heraus als HTML abspeichern

Web Design Software benützen (WYSIWYG)

- Open Source
- Freeware (= proprietär ≠ Free Software)
- Commercial ("Payware")
  Bsp: iWeb, Microsoft FrontPage, Adobe Dreamweaver

Selber schreiben (Text Editor & Browser)

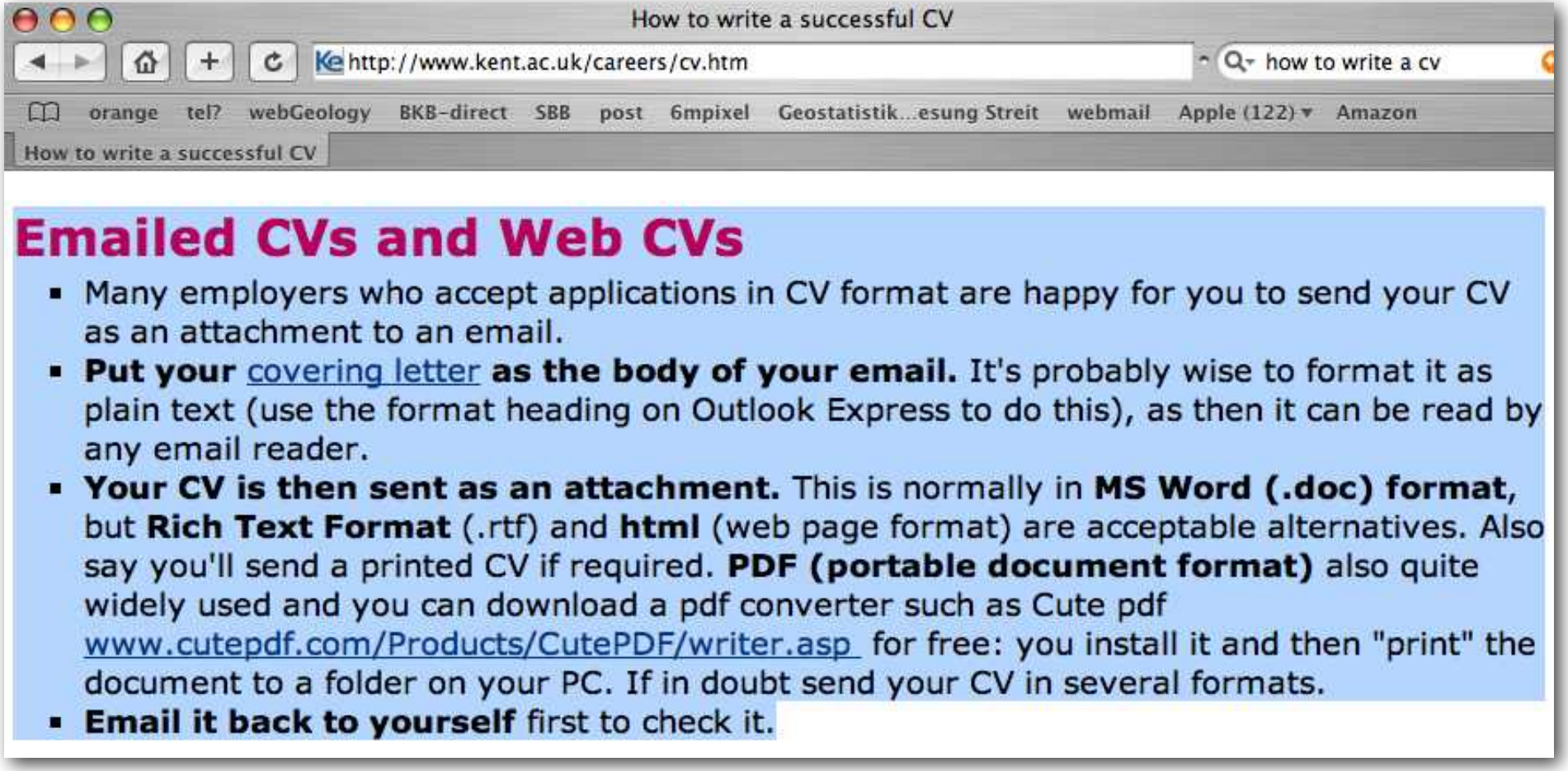
Bestandteile eines Lebenslaufs (Curriculum Vitae)

1. Titel (englisch: "Curriculum Vitae" deutsch: "Lebenslauf")
2. Persönliche Daten
   - Name, Vorname(n)
   - Adresse
   - Geburtsdatum
   - Zivilstand / Kinder
   - Nationalität
   - Sprachen
3. Ausbildung
   - universitäre Abschlüsse
4. Berufserfahrung inkl. Lehrerfahrung
   - Mitgliedschaft an Institutionen, akademische Gesellschaften, Berufsorganisationen, etc.
   - Gutachter Tätigkeit (Zeitschriften, Forschungsförderung)
5. Durchgeführte Projekte
6. Publikationsliste

Web CV ≠ Bewerbungs-CV

1. Persönliche Daten
    - Name, Vorname(n)
    - Geburtsdatum
2. (fakultativ) Ausbildung
3. (fakultativ) Berufserfahrung inkl. Lehrerfahrung
4. Forschungsinteressen
5. Laufende Projekte
6. Publikationsliste

Tipp zu Email- und Web CV

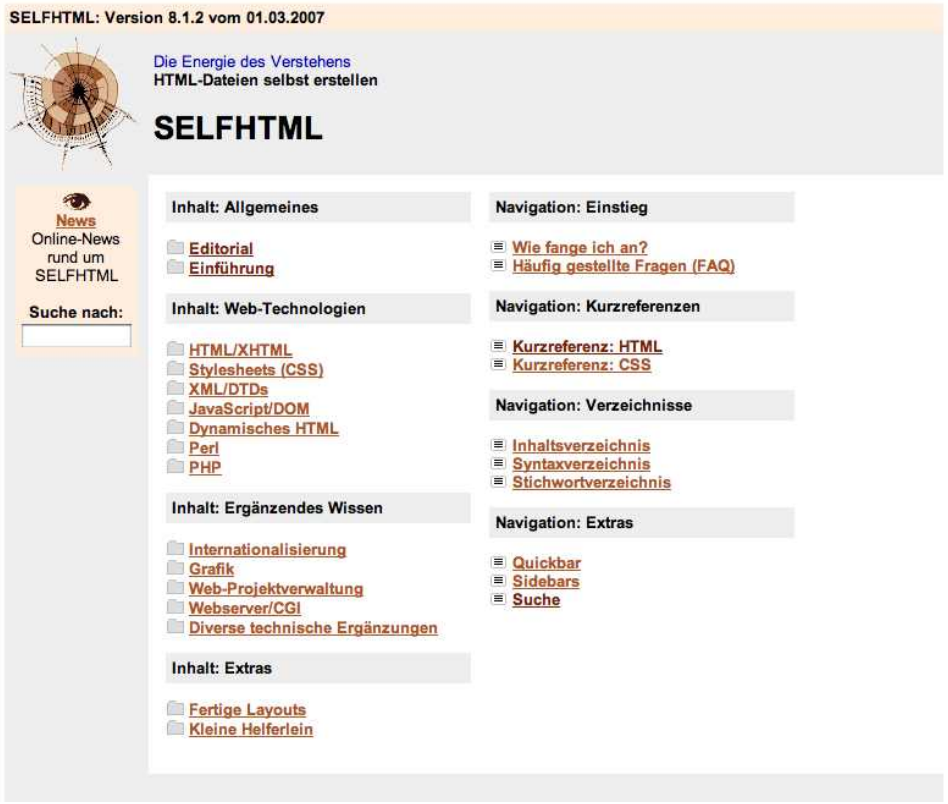


ein paar Ausdrücke ...

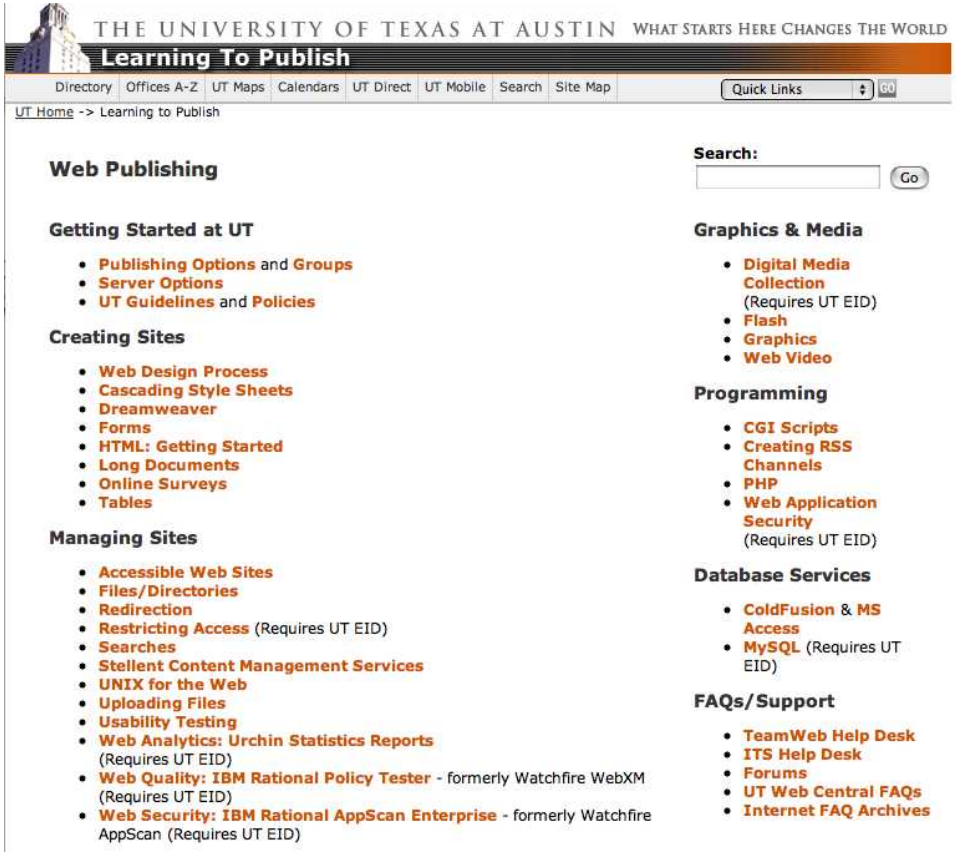
HTML	hypertext markup language
URL	uniform resource locator
HTTP	hyper text transfer protocol
PDF	portable document format
GIF	graphics interchange format by compuserve: Lossless - LZW (Abraham Lempel, Jacob Ziv, Terry Welch)
JPEG	joint photographic experts group lossy discrete cosine transform followed by Huffman coding
PNG	portable network graphics lossless "deflation"

HTML selber lernen

http://de.selfhtml.org/



http://www.utexas.edu/learn/



Aufbau einer Seite

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<html>

<head>
    <title> ...  </title>
</head>

<body>
    <p>  ...  ...
    <table> ... </table>
</body>

</html>
```

Eine Tabelle

row 1 column 1	row 1 column 2	row 1 column 3
row 2 column 1	row 2 column 2	row 2 column 3

```
new table
    new row
        new column
        end of column
        new column
        end of column
        new column
        end of column
    end of row

    new row
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    end of row
end of table
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row 1 column 1 & column 2		row 1 & row 2 column 3
row 2 column 1	row 2 column 2	

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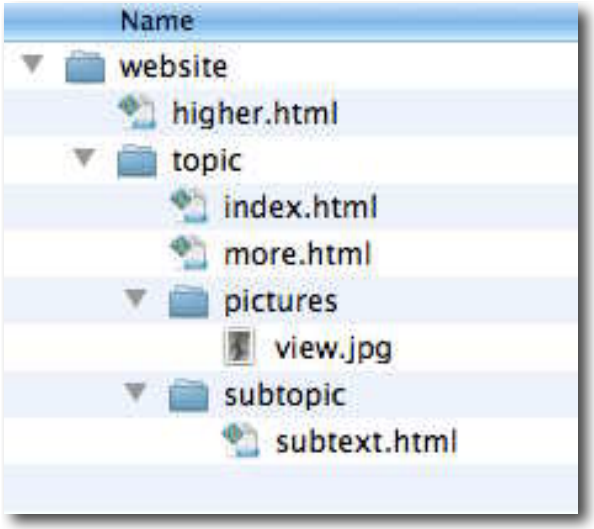
die wichtigsten Tags

neuer Abschnitt	<p>
neue Zeile	
fett	
Titel	etc.
Linie	<hr>
Liste	...
nummerierte Liste	...
horizontale Ausrichtung	align = "left" / "right" / "center / "justify"
vertikale Ausrichtung	valign = "top" / "middle" / "bottom"
Tabelle	<table> </table>
Zeile	<tr> </tr>
Spalte (Zelle)	<td> </td>
Verweis (Link)	(text or image)
Verweis auf Datei	(text or image)
Email	name(at)adresse
Bild	<img src = " image ">

Links setzen

vom file index.html aus:



Resultat

mehr info

zum Thema 1

zurück

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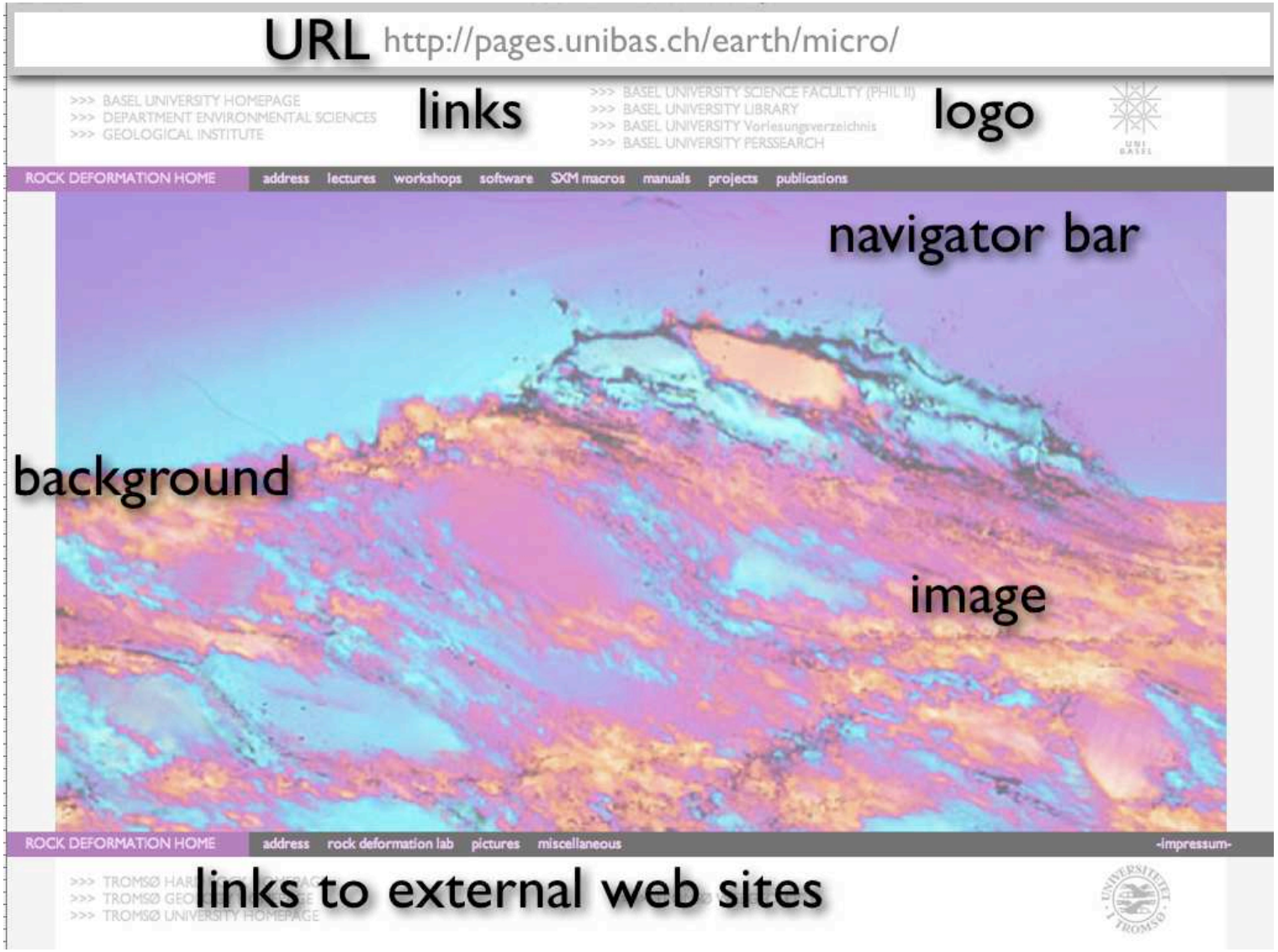
Beispiel einer Webseite



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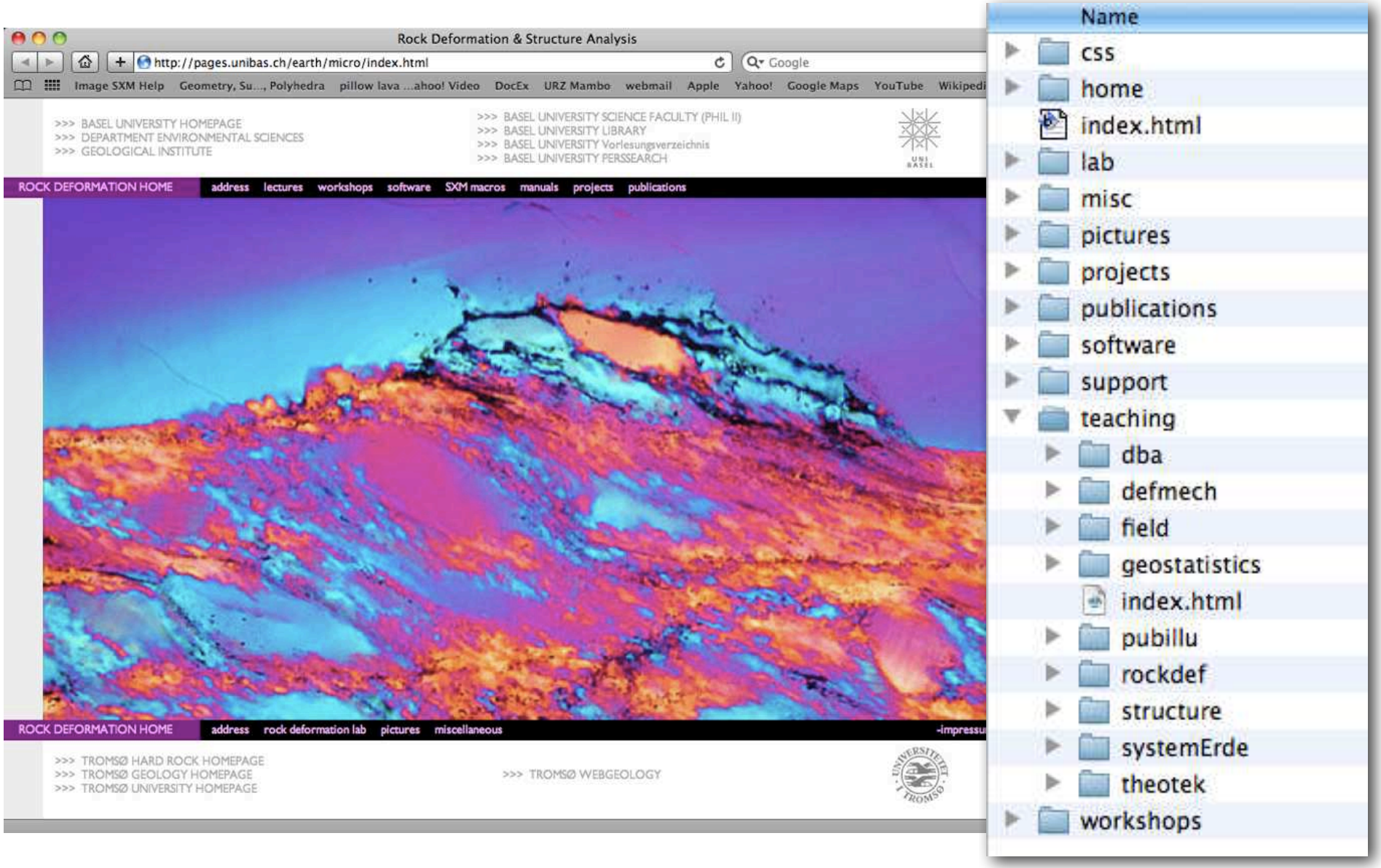
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Google Maps
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>>> BASEL UNIVERSITY Vorlesungsverzeichnis
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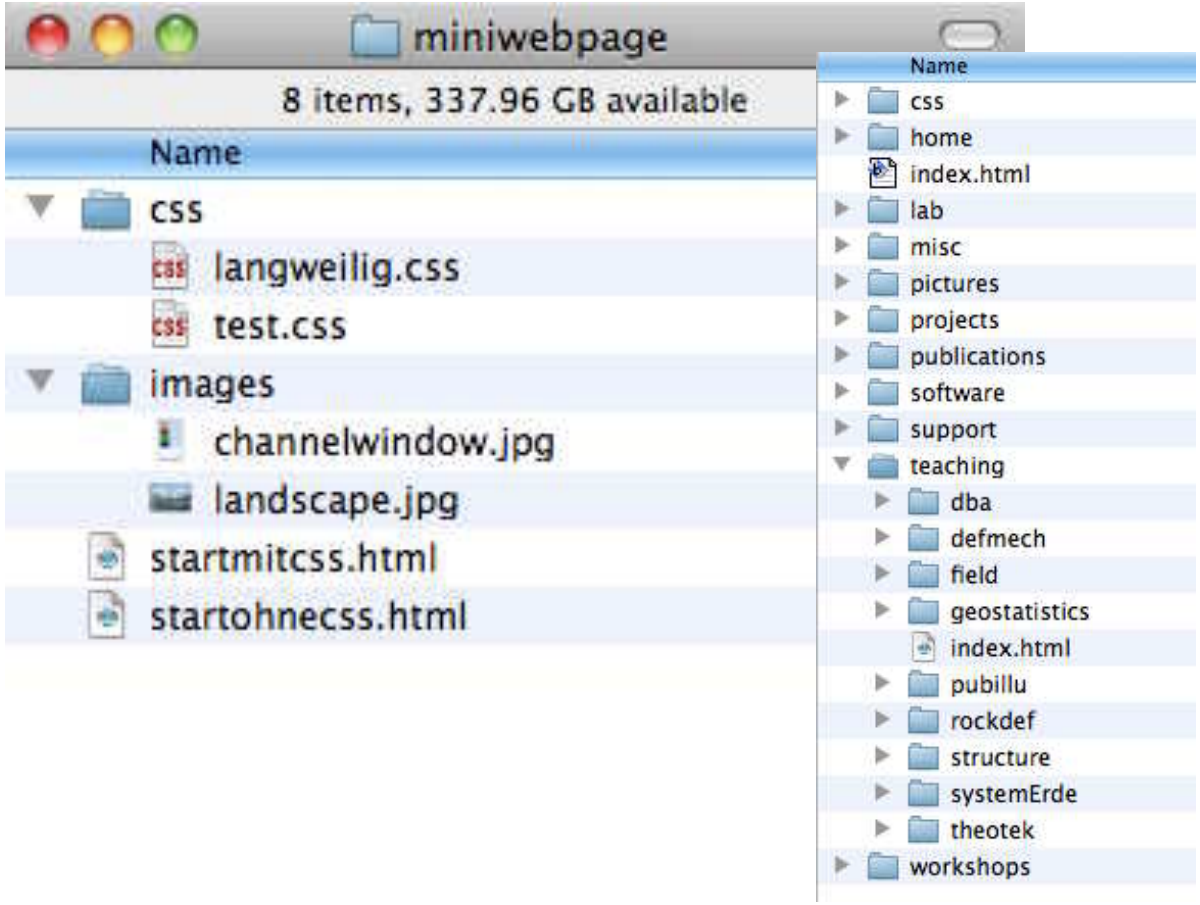
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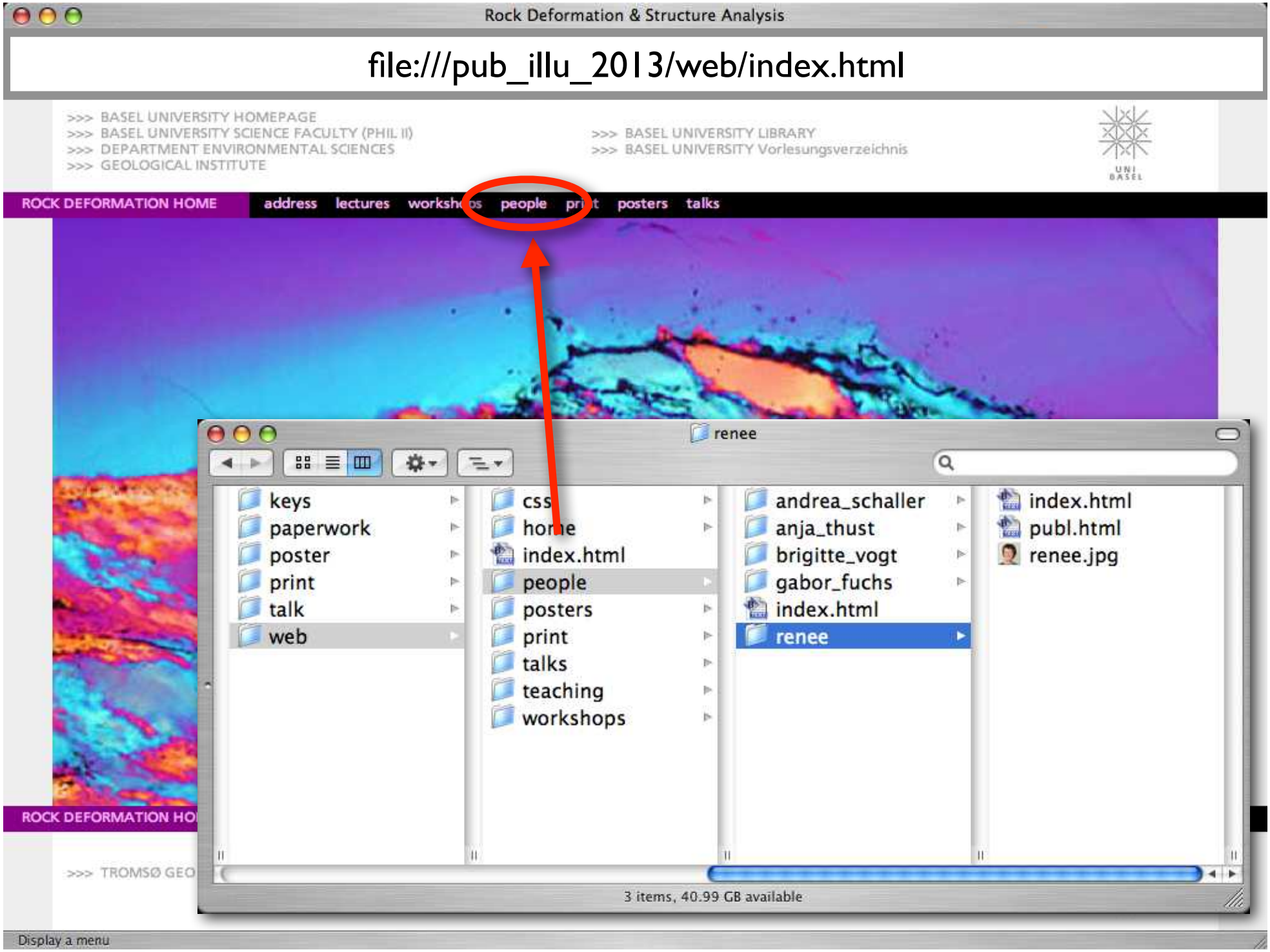
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Aufgabe 3

Web page / Internet Publikation

Mitbringen

- Passphoto
- Material von Reise, Exkursion, Wanderung, o.ä.
  - Photos, Karten, Beschreibung, Route, Grafiken

Aufgabe

1. CV aufsetzen und Material für Themenseite zusammenstellen
2. Web page entwerfen
   - Storyboard
   - Cascading Style Sheets benützen
   - Links setzen

→ Abgeben bis 17. Januar 2014

(4) Folien für Vortrag

Good Talk - Bad Talk

SO...

- Ausgangslage und Motivation erklären
- den Vortrag sichtbar strukturien
- immer wieder zusammenfassen, was dargestellt wurde, und erklären, warum das interessant ist

... SO NICHT...

- ohne Umschweife hinein ins volle Menschenleben, irgenwo anfangen, loslegen
- Vortrag ohne Zusammenfassung beenden
- "Spannung erzeugen", indem man (möglichst viele und überraschende) Datenpräsentiert, und die "Lösung des Falles" ganz auf den Schluss verschiebt

Good Talk - Bad Talk

SO...

- unbedingt den Zeitrahmen beachten; es ist besser, weniger Stoff gut zu erklären als vieles nur oberflächlich
- auswählen !
  einen neuen Gedanken oder ein Konzept durchzubringen benötigt etwa 5 Minuten
- Interesse wecken, Fragen formulieren

... SO NICHT...

- mehr Stoff einplanen als in der Vortragszeit möglich ist
- aufhören, wenn die Zeit um ist, egal ob der Vortrag zuende ist oder nicht
- schnell reden, damit jedes Detail erklärt werden kann

Good Talk - Bad Talk

SO...

- die Vorkenntnisse im Publikum berücksichtigen - das Publikum nicht überschätzen
- die Begeisterung für das Thema zeigen, ohne damit vom Inhalt des Vortrags abzulenken
- die Aufnahmefähigkeit des Publikums (an einer dichtgepackten Konferenz / am Ende des Tages..) berücksichtigen

... SO NICHT...

- um die crème de la crème zu beeindrucken den Vortrag auf Experten-Niveau abhalten, sodass nur Insider verstehen worum es geht
- den Vortrag herunterleiern, einen blasierten Ton annehmen
- erwarten, dass sich das Publikum halt eine Spezalanstrengung unternehmen muss, wenn man den Vortarg verstehen will

Good Talk - Bad Talk

SO...

- nur die Daten (Kurven) zeigen, welche im Vortrag besprochen werden
- jede Tabelle und Kurve erklären (Achsen!) und sagen was hier gezeigt wird
- Zusammenfassung und Schlussfolgerungen in Stichworten
- jede Schlussfolgerung durchgehen - nicht einfach hinprojizieren

... SO NICHT...

- vollgepackte Folien zeigen
- den Vortrag "dynamisieren" durch einhalten einer hohen Taktfrequenz
- "lustige" Überblendungseffekte einbauen
- viele verschiedene Schriftsätze und Grafikstile verwenden
- lange Texte projizieren - den Text ablesen
- lange Texte projizieren - etwas anderes dazu erzählen

Tipps

Vor dem Vortrag:

Vortrag üben - vor Mitstudierenden und BetreuerInnen
den ersten Satz auswendig lernen

Während des Vortrags:

laut und deutlich sprechen
eine freundliche Haltung einnehmen

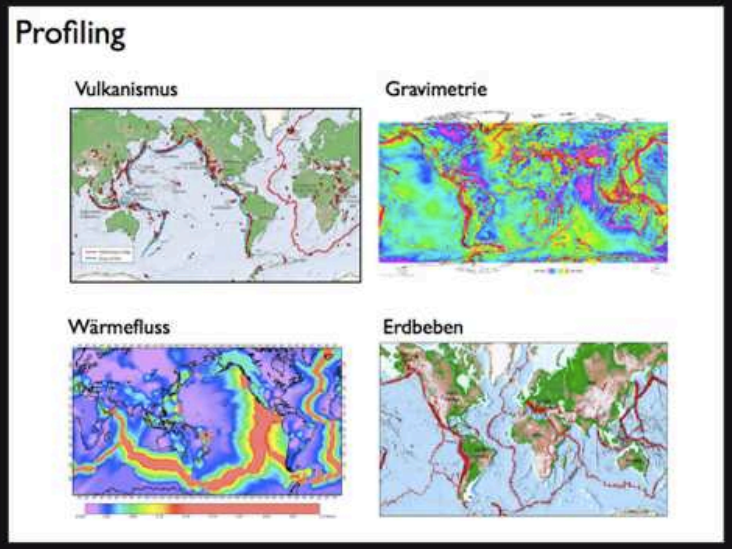
Am Ende des Vortrags:
sich bedanken
Fragen ggf. wiederholen und kurz (!) beantworten. Ehrlich bleiben: "Ich weiss nicht" ist auch ein mögliche Antwort

Vortrag üben

Current Slide: 1 of 72

Tatort Plattengrenze
4
Im forensischen Labor

Next Slide: 2 of 72



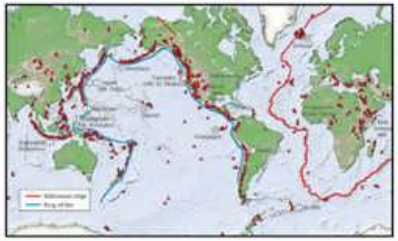
Notes For Slide 1

Wir sind bei den konstruktiven Plattengrenzen und haben begonnen Vulkane anzuschauen.
Diese Stunde geht es darum die "Tatzeugen" Vulkanismus und Erdbeben genauer unter die Lupe zu nehmen.
Zuerst fragen wir: wie macht man Vulkane
dann: was passiert bei einem Erdbeben
Wir "nehmen Blut" und "beschatten den Täter"

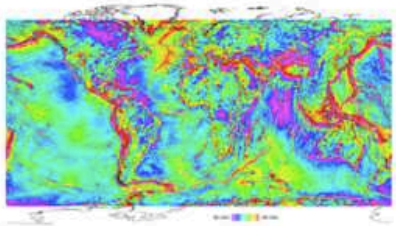
Current Slide: 2 of 72

Profiling

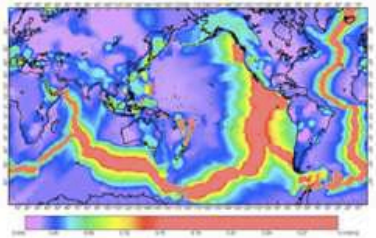
Vulkanismus



Gravimetrie



Wärmefluss



Erdbeben

Next Slide: 3 of 72

Das Geoid - die Form der Erde

Ist die Erde ...

... eine Kugel ?

... ein Rotationsellipsoid ?

Notes For Slide 2

Was machen Plattengrenzen typischerweise?
Heute: Schwerefeld – Wärmefluss – Vulkanismus
Nächstes Mal: Erdbeben

Current Slide: 3 of 72

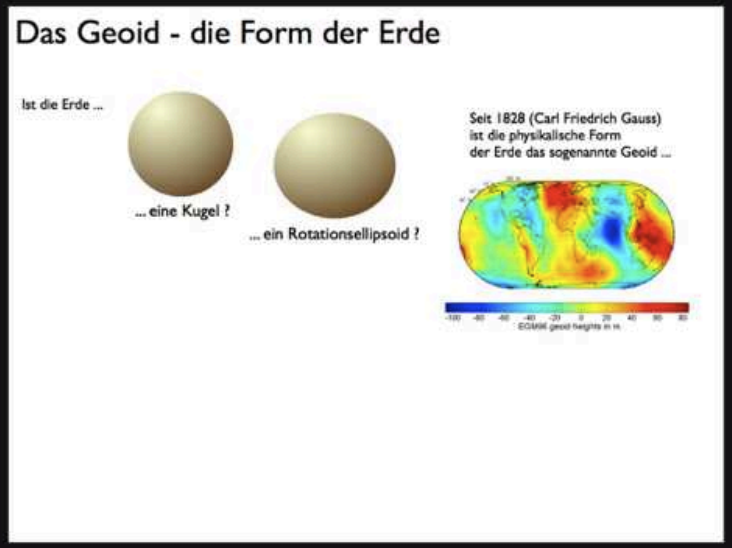
Das Geoid - die Form der Erde

Ist die Erde ...

... eine Kugel ?

... ein Rotationsellipsoid ?

Next Slide: 3 of 72



Notes For Slide 3

Als "Nebeneffekt" der Gravimetrie : die Beschreibung der Gestalt der Erde

Current Slide: 3 of 72

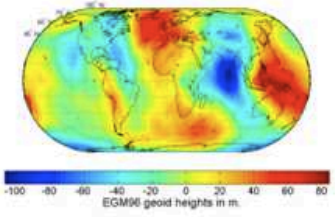
Das Geoid - die Form der Erde

Ist die Erde ...

... eine Kugel ?

... ein Rotationsellipsoid ?

Seit 1828 (Carl Friedrich Gauss)
ist die physikalische Form
der Erde das sogenannte Geoid ...



Next Slide: 3 of 72

Das Geoid - die Form der Erde

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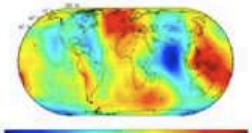

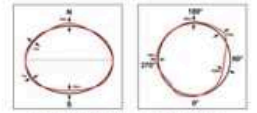

... seit 1996 ist es ein Birne...

Notes For Slide 3

Als "Nebeneffekt" der Gravimetrie : die Beschreibung der Gestalt der Erde

Current Slide: 3 of 72

Das Geoid - die Form der Erde

Ist die Erde ...

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Seit 1828 (Carl Friedrich Gauss)
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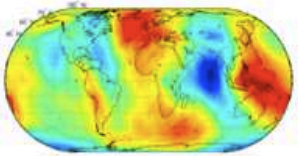
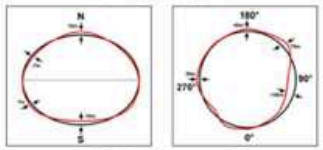
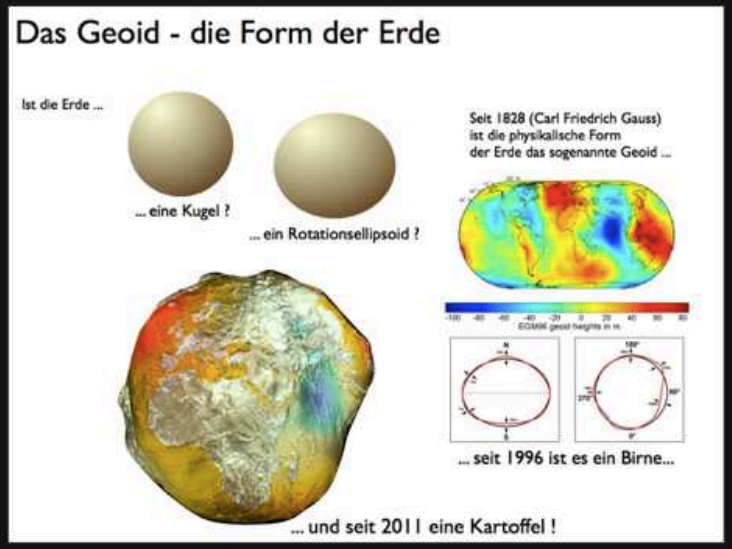




... seit 1996 ist es ein Birne...

Next Slide: 3 of 72



Notes For Slide 3

Als "Nebeneffekt" der Gravimetrie : die Beschreibung der Gestalt der Erde

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Das Geoid - die Form der Erde

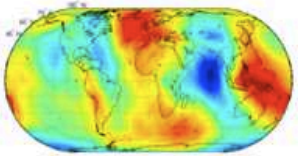
Ist die Erde ...

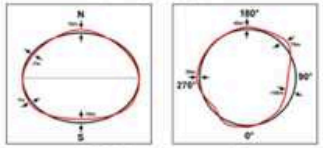
... eine Kugel ?

... ein Rotationsellipsoid ?

... und seit 2011 eine Kartoffel !

Seit 1828 (Carl Friedrich Gauss)
ist die physikalische Form
der Erde das sogenannte Geoid ...





... seit 1996 ist es ein Birne...

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wie kommt man denn darauf ?

Normalwert auf einer Referenzfläche (meist Referenzellipsoid):

Normalschwere:
$g_{normal} = g_E \cdot (1 + \alpha \cdot \sin^2 \lambda + \beta \cdot \sin^2 \lambda)$ (λ = geografische Breite)
(α, β = Parameter)

Schwereanomalie
Lokale Abweichung der Schwerebeschleunigung vom theoretischen Normalwert

Freiluft-Anomalie g_F $g_F = g_{obs} - (g_{normal} + \Delta g_F)$

Keine Anomalie: beobachteter & korrigierter Wert = Normalschwere
Positive Anomalie: zuviel Material, bzw. liegt zu hoch
Negative Anomalie: zu wenig Material, bzw. liegt zu tief

Achtung: Freiluft-Anomalie ≠ Bouguer-Anomalie

Notes For Slide 3

Als "Nebeneffekt" der Gravimetrie : die Beschreibung der Gestalt der Erde

Aufgabe 4

Vortrag

Mitbringen

- Material für Vortrag
  - aus Masterarbeit
  - aus Bachelorarbeit
  - Projekt

Aufgabe

1. Vortragstruktur überlegen
2. Slides herstellen (minimum = 6, maximum = 10)
3. Vortrag halten .
   - . hmmm 14 TeilnehmerInnen à 6 Minuten (inkl. Diskussion). ?
   - . geht nicht !
4. Presenter Notes verfassen

→ Abgeben bis 17. Januar 2014 (sorry)