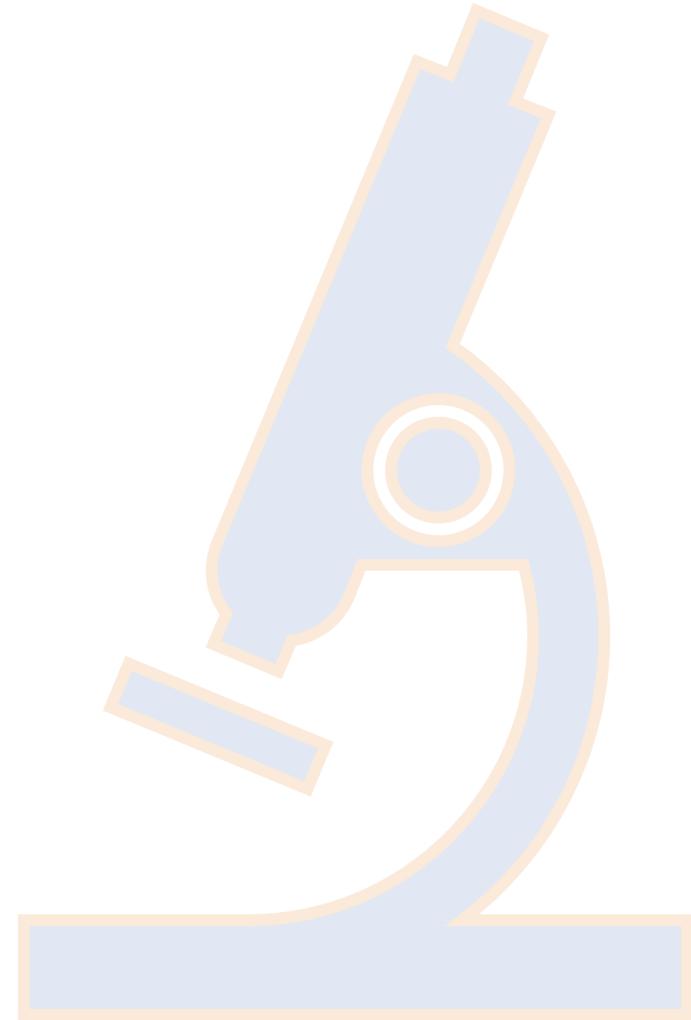




Scientific Communication

*Lecture on
Poster Presentations*



Good Afternoon

- Welcome to Everybody
- Please switch off your Smartphones



Schedule

12-Oct	First Round of Group Lectures 3x3 Minutes
19-Oct	How to design a scientific poster
26-Oct	Midterm Exam - written test
2-Nov	Second round of Oral Group Presentations
9-Nov	Scientific Poster Presentation



Today's program

- Go through Slides of Group 11
- How to prepare a scientific Poster
- Classroom Exercise:
 - Select Poster Topics
 - Mind map Sketch
 - Pass through

9/22/2020

Lutz Pluemer, Scientific Communication



Poster Presentations

- Posters are usually presented in Poster Sessions
- Poster Sessions are part of Scientific Conferences and Workshop
- (Young) Research present their most recent Results
- Usually after submitting and accepting a short abstract of your work
- Poster sessions are especially important for young scientists
- To get in contact with International Scientists
- ... and to build **Networks**
- A good opportunity to **draw attention to yourself**



Typical Poster Session

Poster Session 2019 Emei

9/22/2020



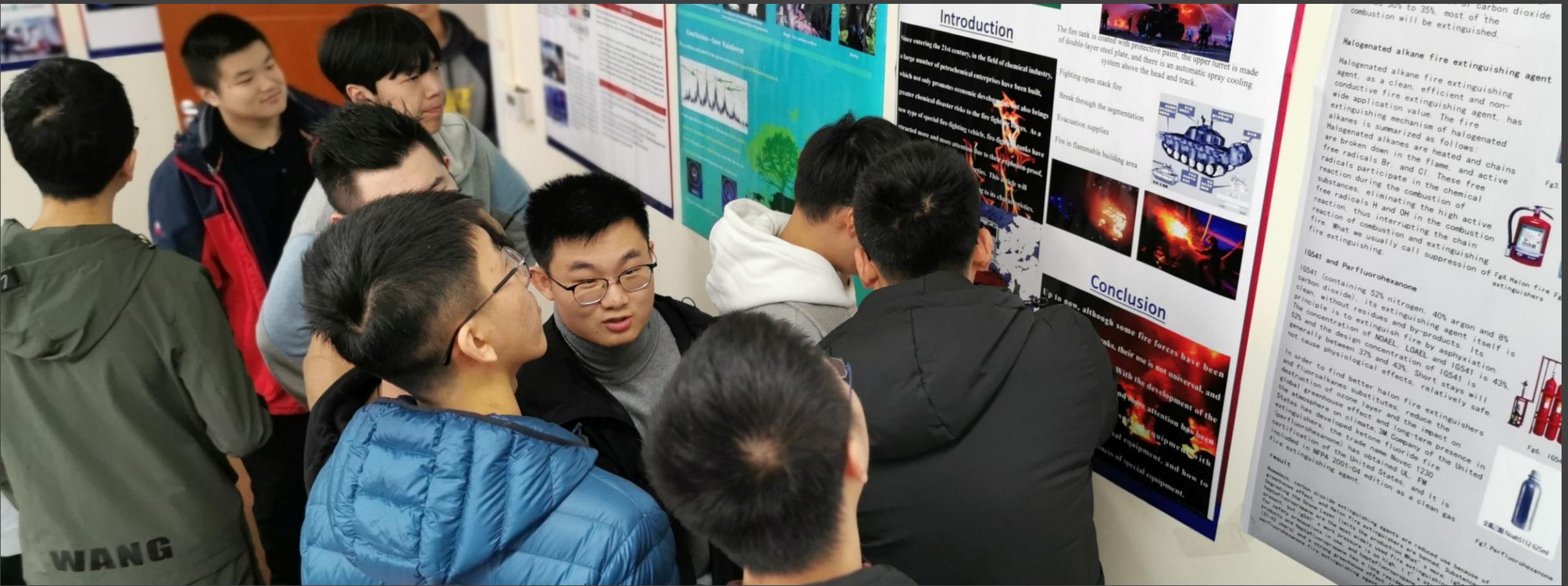
Poster Session 2019 Emei

9/22/2020



Poster Session 2019 Emei





Poster Session 2019 Emei

Presentation

Procedure

- Selection of the topic
- Sketch with mind map
- Design Draft
- PowerPoint
- Adobe PDF file
- Printout
- Hanging in the classroom
- Overview through the whole class
- **Presentation** by group
- **Questions** by another group

Poster Session Last Year same class

9/22/2020



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Poster Session Last Year same class

9/22/2020

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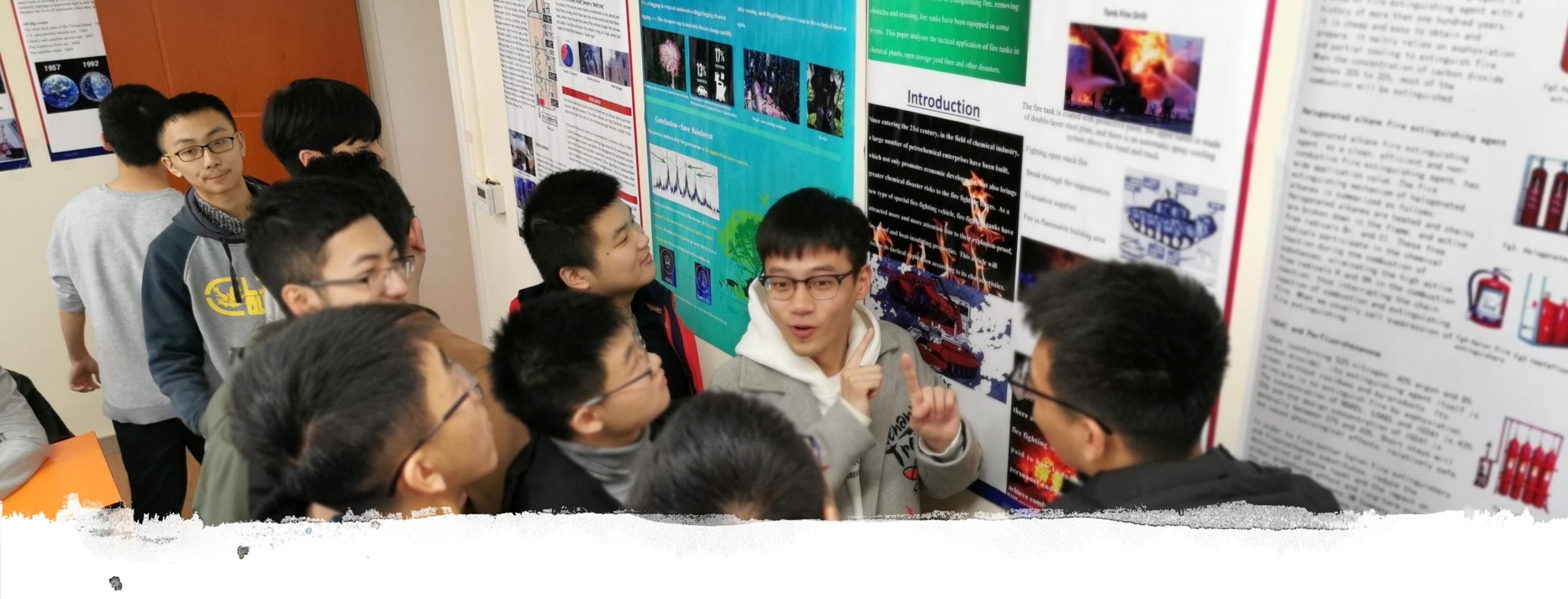
Poster Session Last Year same class

9/22/2020



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Poster Session Last Year same class

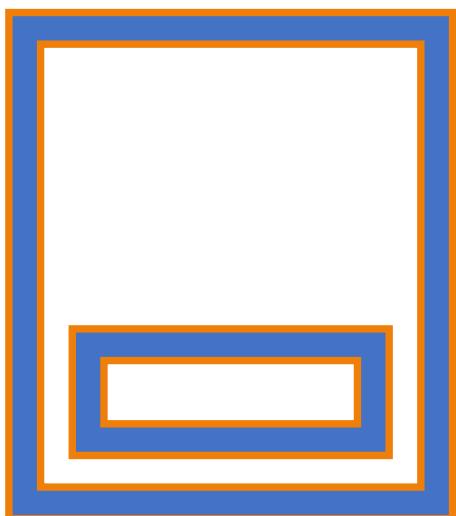
Poster Session Last Year same class

9/22/2020



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Content of a Poster



- Title
- Abstract
- Introduction
- Methods
- Results
- Conclusion
- References

Poster Organization



Concentrate

Concentrate on the Main Points



Combine

Combine Text, technical illustrations and Pictures in a smart way



Text

Formulate text concisely



Pictures

Let Illustrations and Pictures tell the story



Layout

Use an easy-to-follow Layout

Template

Title of the Research Study

Introduction

We hope you find this template useful! This one is set up to yield an A0 (33.11x46.81") vertical poster.

We've put in the headings we usually see in these posters, you can copy and paste and change to your hearts content! We suggest you use keep black text against a light background so that it is easy to read. Background color can be changed in format-background-drop down menu.

The boxes around the text will automatically fit the text you type, and if you click on the text, you can use the little handles that appear to stretch or squeeze the text boxes to whatever size you want. If you need just a little more room for your type, go to format, spacing and reduce it to 90 or even 85%.

The dotted lines through the center of the piece will not print, they are for alignment. You can move them around by clicking and holding them, and a little box will tell you where they are on the page. Use them to get your pictures or text boxes aligned together.

How to bring things in from Excel® and Word®

Excel- select the chart, hit edit-copy, and then edit-paste into PowerPoint®. The chart can be stretched to fit as required. If you need to edit parts of the chart, it can be ungrouped. **Watch out** for scientific symbols used in imported charts, which PowerPoint will not recognize as a used font and may print improperly if we don't have the font installed on our system. It is best to use the Symbol font for scientific characters.

Word- select the text to be brought into PowerPoint, hit edit-copy, then edit-paste the text into a new or existing text block. This text is editable. You can change the size, color, etc. in format-text. We suggest you not put shadows on smaller text. Stick with Arial and Times New Roman fonts so your collaborators will have them.

200

We need images to be 72 to 100 dpi in their final size, or use a rule of thumb of 2 to 4 megabytes of uncompressed .tif file per square foot of image. For instance, a 3x5 photo that will be 6x10 in size on the final poster should be scanned at 200 dpi.

We prefer that you import tif or jpg images into PowerPoint. Generally, if you double click on an image to open it in Microsoft Photo Editor, and it tells you the image is too large, then it is too large for PowerPoint to handle too. We find that images 1200x1600 pixels or smaller work very well. Very large images may show on your screen but PowerPoint cannot print them.

Preview: To see your in poster in actual size, go to view-zoom-100%. Posters to be printed at 200% need to be viewed at 200%.

Feedback: If you have comments about how this template worked for you, email to Comments@teachertools.com.

Please contact your local Cellular One office at 800-500-2850 if you need help in setting up.

Methods

A decorative horizontal border consisting of a repeating pattern of small, stylized floral or geometric motifs.

A decorative horizontal border consisting of two rows of repeating patterns: a top row of vertical 'Z' shapes and a bottom row of horizontal 'X' shapes.

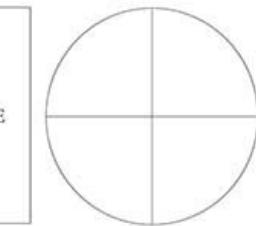
9/22/2020

Results

A decorative horizontal border consisting of a repeating pattern of the letter 'X'. The pattern is composed of thin black lines forming a grid-like 'X' shape, which is repeated across the width of the border.

Figure #1

Figure #2



Conclusions

A decorative horizontal border consisting of two rows of repeating diagonal lines, creating a textured, woven effect.

Bibliography

1. XXXXXXXXXXXXXXXXXXXXXXX
 2. XXXXXXXXXXXXXXXXXXXXXXX
 3. XXXXXXXXXXXXXXXXXXXXXXX
 4. XXXXXXXXXXXXXXXXXXXXXXX

Template

9/22/2020

ACADEMIC RESEARCH POSTER TEMPLATE

Subtitle for Academic Research Poster (36x48 inches)

Your names and the names of the people who contributed to this presentation



Introduction

Mauris orci mi, varius id diam id, egestas auctor enim. Praesent ut massa nibh. Duis in et purus neque, facilisis cursus unus di ultrices vel, ullamcorper ac et augue. Donec semper lorem vitae urna pulvinar, et in congue massa.

Methods

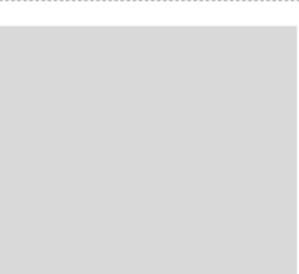
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MAURIS ORCI VARIUS ID DIAM

- Sed in risus nibh. In nisl quam, aliquet sed nibh sitamet, faucibus placerat dui.
- Fusce quis augue scelerisque, luctus rum ut in pulvinar urna in eros posuere.

EUISMOD JUSTO VITAE PURUS

- Proin semper ipsum don semper placerat.
- Finibus quam tempor, vitae consectetur.
- Fusce quis augue scelerisque, luctus rum ut in pulvinar urna in eros posuere.



Mauris orci mi, varius id diam id, egestas auctor enim.

*Unamcorper efficitur sed in nulla.

Data Analysis

Mauris orci mi, varius id diam id, egestas auctor enim. Praesent ut massa nibh. Duis purus neque, [See Figure A].

Donec:

- A. Sed in risus nibh. In nisl quam, aliquet sed nibh sitamet, faucibus placerat dui.
- B. Fusce quis augue scelerisque, luctus rum sed, ut dolor pulvinar urna in eros posuere.
- C. In elementum orci dignissim. Proin semper.

(A)



(B)



(D)

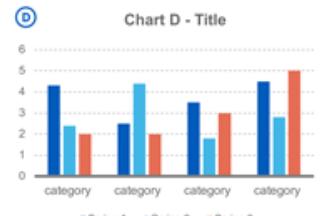


Table 1 - Title

8.01	7.99	5.77	6.44
4.50	3.11	9.55	1.12
6.15	8.00	6.18	5.65
8.21	2.16	3.11*	7.17
3.00	9.70	10.50	4.45

*Unamcorper efficitur sed in nulla.

Results

Mauris orci mi, varius id diam id, egestas auctor enim. Praesent ut massa nibh. Duis purus neque, facilisis cursus ultrices vel, ullamcorper ac augue. Donec semper lorem vitae urna pulvinar, in congue massa tristique quis augue.

(E)



MAURIS ORCI MI VARIUS ID DIAM

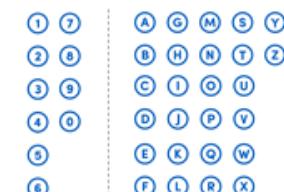
Egestas auctor enim. Praesent ut massa nibh. Duis purus neque, facilisis unus cursus an et ultrices vel.

Conclusion

Mauris orci mi, varius id diam id, egestas auctor enim. Praesent ut massa nibh. Duis purus neque, facilisis cursus ultrices vel, ullamcorper ac augue. Donec semper lorem:

- Sed Risus Nibh:** Cil nisl quam, aliquet sed nibh sitamet, faucibus placerat dui augue scelerisque.
- Curabitur Accumsan Nulla:** Fusce quis augue urna scelerisque, luctus rum sed, ut dolor in pulvinar in eros.
- Elementum Orci Dignissim:** Proin semper ipsum finibus quam tempor, vitae.

Graphic Elements



References

- Phasellus nec lectus bibendum, posuere nibh id.
- Mauris orci mi, varius id diam id, egestas auctor enim.
- Duis vitae tincidunt tortor, vitae sollicitudin magna.
- Aenean et est sem. Phasellus nec lectus bibendum,
- Lacinia magna. Mauris orci mi, varius diam id, egestas.
- Mauris orci mi, varius id diam id, egestas auctor enim.
- Duis vitae tincidunt tortor, vitae sollicitudin magna.

Poster Example

9/22/2020

Internet of THINGS



What is IoT?

In a nutshell, the Internet of Things is the concept of connecting any device to the Internet and to other connected devices. It is a network of physical objects – vehicles, machines, home appliances, and more – that use sensors and APIs to connect and exchange data over the Internet.



Internet of Things to Hit the Mainstream by 2020
Estimated number of smart connected things in use worldwide, by category

Category	2013	2014	2015	2020
Automotive	3.0b	3.75b	4.85b	25.01b
Consumer	3.0b	3.75b	4.85b	25.01b
Business	3.0b	3.75b	4.85b	25.01b

Devices and objects with built-in sensors are connected to an Internet of Things platform, which integrates data from the different devices and applies analytics to share the most valuable information with applications built to address specific needs.

Internet of Things' applications extends from smart connected homes to wearables to healthcare. It is not wrong to suggest that IoT is now becoming part of every aspect of our lives.

The best video about IoT
Scan QR Code



Kaushik Gupta TYEJ 27
Pragati Parhi TYES 15

Electronics & Telecommunication Department

Applications of the Internet of Things

Transport & Logistics	Utilities	Smart cities	Smart building
Fleet management, Goods tracking	Smart metering, Smart grid management	Parking sensors, Waste management, etc.	Smoke detector, Home automation
Consumers	Industrial	Environment	Agriculture
Wearables, Kid/senior tracker	Process monitoring & control, Maintenance monitoring	Food monitoring/alerts, Environmental monitoring	Climatic/agriculture monitoring, Livestock tracking

Poster Example

ETHzürich D-BAUG IGP Institut für Geodäsie und Photogrammetrie

Identification of stable surfaces within point clouds for areal deformation monitoring

PhD student: Ephraim Friedli - Supervisor: Prof. Dr. Andreas Wieser
Geosensors and Engineering Geodesy, Institute of Geodesy and Photogrammetry, ETH Zürich

Introduction

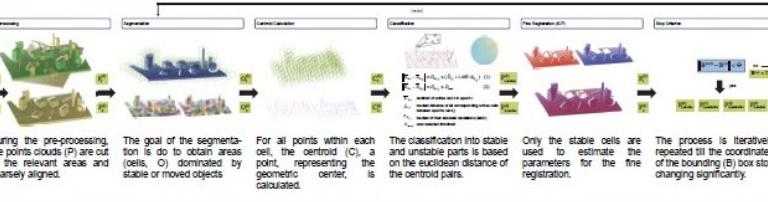
Terrestrial laser scanning (TLS) allows acquiring the geometry of objects and surfaces with high spatial resolution and high accuracy over large areas. So, it is a potentially attractive technology for structural monitoring and geomonitoring. For these purposes a sequence of scans has to be acquired at different epochs, and changes between the epochs have to be detected and quantified by analyzing the resulting point clouds.

We are working on an approach for a data driven registration of point clouds, which can easily be extended to entire scan sequences. The core of the approach is the classification of the point clouds into stable and unstable parts based on their use for the fine registration. This is achieved through an iterated segmentation of the point clouds into stable and unstable parts based on equally sized cells and distances between centroids. The process is repeated until the transformation obtained using ICP does not change significantly anymore between consecutive iterations.



Landslide in Val Pergine (Foto: Michael Prakac)

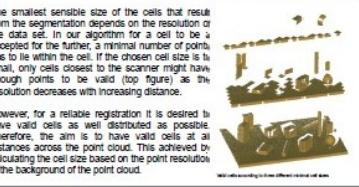
Workflow



The workflow consists of several steps: Raw data (point clouds), Pre-processing (alignments), Segmentation (stable vs. unstable), Classification (centroids), Fine Registration (ICP), and Final Output (registration parameters, point clouds).

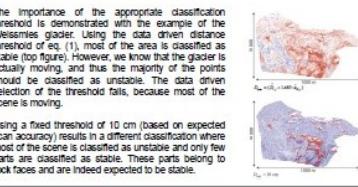
During the pre-processing, the point clouds (P) are cut to the relevant areas and coarsely aligned. The goal of the segmentation is to obtain areas (O , O_i) dominated by stable or moved objects. For all points within each cell, the centroid (C) is calculated. The classification into stable and unstable parts is based on the euclidean distance of the centroid pairs. Only the stable cells are used to estimate the parameters for the fine registration. The process is iteratively repeated till the coordinates of the bounding (B) box stop changing significantly.

Cell size and min. Points per Cell



The smallest sensible size of the cells that result from the segmentation depends on the resolution of the data set. In our algorithm for a cell to be accepted for the further, a minimal number of points has to lie within the cell. If the chosen cell size is too small, only cells closest to the scanner might have enough points to be valid (top figure) as the resolution decreases with increasing distance.

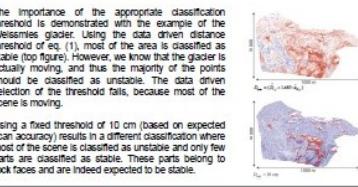
However, for a reliable registration it is desired to have valid cells as well distributed as possible. Therefore, the intention is to have cells at all distances across the scene. This is achieved by calculating the cell size based on the point resolution. In the background of the point cloud, the Weisshorn glacier is shown.



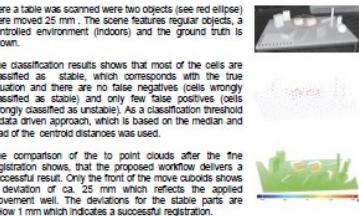
The importance of the appropriate classification threshold is demonstrated with the example of the Weisshorn glacier. Using the data driven approach of eq. (1), most of the area is classified as stable (top figure). However, we know that the glacier is actually moving, and thus the majority of the points should be classified as unstable. The data driven selection of the threshold fails, because most of the scene is moving.

Using a fixed threshold of 10 cm (based on expected scan accuracy) results in a different outcome where most of the scene is classified as unstable and only few parts are classified as stable. These parts belong to rock faces and are indeed expected to be stable.

Displacement Threshold



Results Table Scene

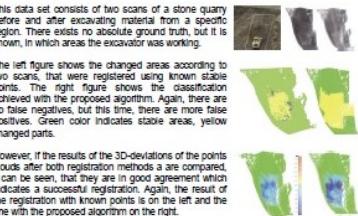


Here a table was scanned were two objects (see red ellipse) were moved 25 mm. The scene features regular objects, a controlled environment (indoors) and the ground truth is known.

The classification results show that most of the cells are classified as stable, which corresponds with the true situation. There are many false positives (cells wrongly classified as stable) and only few false positives (cells wrongly classified as unstable). As a classification threshold a data driven approach, which is based on the median and mad of the centroid distances was used.

The comparison of the point clouds after the fine registration shows that the proposed workflow delivers a successful result. Only the front of the move cuboids shows a deviation of ca. 25 mm which reflects the applied movement. The deviations for the stable parts are below 1 mm which indicates a successful registration.

Results Stone Quarry



This data set consists of two scans of a stone quarry before and after excavating material from a specific region. There exists no absolute ground truth, but it is known, in which area the excavator was working.

The left figure shows the changed areas according to the scans that were registered using only the stable points. The right figure shows the same registration achieved with the proposed algorithm. Again, there are no false negatives, but this time, there are more false positives. Green color indicates stable areas, yellow changed parts.

However, if the results of the 3D-deviations of the point clouds after both registration methods are compared, it can be seen, that they are in good agreement which indicates a successful registration. Again, the result of the registration with the proposed algorithm on the left and the one with the proposed algorithm on the right.

Poster Example

9/22/2020

Informationen-Pressemitteilungen

Forschungsaktivitäten der AG GEOÖKOLOGIE

Industrieprojekt:

Entwicklung von nachhaltigen Ackerbaukonzepten für Trockengebiete

Einer der wichtigsten Landwirtschaftssektoren, die AMALNE-Weiss II (Dreyer GmbH & Co KG) mit Untersuchungen zur nachhaltigen Bodenbewirtschaftung in Trockengebieten und zu Modellierungsansätzen des Bodenwasserhaushalts im Rahmen der AG GEOÖKOLOGIE prägen. Die geplanten Untersuchungsgebiets befinden sich in Sachsen-Anhalt, in Südsachsen und in Mitteldeutschland.

Es werden umfangreiche Feldversuche, Instrumentierungen im Gelände, alternde Messungen und Kartenungen, Präsentationen sowie umfassende Tests von AMALNE-Technik vorgenommen.

Förderdauer: 3 Jahre

Informationen und Kontakt:
Tel. +49 345 5520 020
Email: teilen.mew@geo.uni-halle.de

Martin-Luther-Universität

DAAD
Wandel durch Austausch

Deutschsprachiger Studiengang (DSG) an der Alten Universität Barnaul/Sibirien

Der Lehrstuhl Geodäsie des Instituts für Geodäsie und Geoinformation an der Martin-Luther-Universität Halle-Wittenberg ist maßgeblich an der Errichtung eines DSG an der Alten Universität in Barnaul. Die Physische und der eigentliche Studiengang werden zusammengeführt.

Thema des geplanten Aufbaustudiengangs ist:
„Umweltmonitoring und -management“

Der Studiengang verfolgt zwei Ziele:

- Russischen Studenten der Geographie moderne Arbeitsmethoden und -instrumente in der geowissenschaftlichen Forschung zu vermitteln.
- Deutsch als wissenschaftliche (Fach-)Sprache in Russland zu etablieren.

Informationen und Kontakt:
Dr. Tatjana Mewel
Tel. +49 345 5520 020
Email: tatjana.mew@geo.uni-halle.de

Klimawandel: Forscher warnen die Regierung

Kritik am umgangener Vorwurf: FDP fordert Regierungsberichte

Das Klimawandel-Komitee und die Regionen der drei höchsten Industriezweige fordern eine Klimaschutzstrategie. Sie kritisieren die Kritik am umgangener Vorwurf, dass es sich bei dem Klimawandel um einen natürlichen Prozess handelt.

Hoffnung Sommer, feuchtere Wintere

Wetterbericht: Der Sommer wird trocken, der Winter wird feucht. Das ist die Prognose des Klimawandel-Komitees für das Jahr 2007. Die Regionen der drei höchsten Industriezweige fordern eine Klimaschutzstrategie.

Klimawandel in Deutschland

Hoffnung Sommer, feuchtere Wintere

Wetterbericht: Der Sommer wird trocken, der Winter wird feucht. Das ist die Prognose des Klimawandel-Komitees für das Jahr 2007. Die Regionen der drei höchsten Industriezweige fordern eine Klimaschutzstrategie.

Quelle:
Mitteldeutsche Zeitung 15.02.2007

Hallenser machen russische Steppe fit

Geokologen erforschen baschkirische Böden

BaBy/MZ/reduziert: Für die wichtigste russische Steppe steht ein neuer Lebensraum bereit. Ein Hallenser Geokologen findet sich in weitläufigen Wiesen und Wäldern der Steppenregion Kasachstan. Doch die Böden weisen auf große Probleme hin. Er stellt sie dar und erhält Erfüllung zurück.

Prof. Manfred Fröhlich ist seit 1996 an der Geokologie der Martin-Luther-Universität Halle-Wittenberg tätig. Er forscht auf dem Gebiet der Bodenökologie und der Bodenökodynamik.

Geokologen der Martin-Luther-Universität Halle-Wittenberg (MLU) werden im April dieses Jahres an einer internationalen wissenschaftlichen Wissenschafts- und Umweltkonferenz in der Asiens Hauptstadt Peking teilnehmen. Der Fonds will mit einer Förderung von 100.000 Euro Stützung mit rund 240.000 Euro unterstützen.

Die Mahnkoppenwiesen in der Steppenregion Kasachstan sind ein Beispiel für die Arbeit der Geokologen. Sie untersuchen die Wechselwirkungen zwischen den Böden und der Vegetation. Zurzeit wird die Böden untersucht, um die Voraussetzungen für die Nutzung der Böden zu optimieren. Die Ergebnisse können sich in Zukunft in verschiedenen Anwendungsbereichen der Bodenökodynamik auswirken.

Manfred Fröhlich hat sich die eingeschlossene Steppe des großen sibirischen Beckens mit seinen weiten Wiesen und Wäldern sowie dem dortigen Klima und der Asiens Hauptstadt Peking vorgenommen. Mit dabei ist auch der Biologe und Botaniker Dr. Michael Schmid, der ebenfalls an der Konferenz teilnehmen wird. Beide wollen herausfinden, wie die Böden besser erhalten werden können. Außerdem soll untersucht werden, ob die Böden durch die Nutzung der Böden schwächen, dies wiederum die Vegetation beeinflussen und die Böden immer fruchtloser werden. So lagern große Tiefen der Erde innerhalb der Steppen ab.

Die Mahnkoppenwiesen in der Steppenregion Kasachstan sind ein Beispiel für die Arbeit der Geokologen. Sie untersuchen die Wechselwirkungen zwischen den Böden und der Vegetation. Zurzeit wird die Böden untersucht, um die Voraussetzungen für die Nutzung der Böden zu optimieren. Die Ergebnisse können sich in Zukunft in verschiedenen Anwendungsbereichen der Bodenökodynamik auswirken.

Unsere Arbeit ist aber nicht nur auf die Steppen beschränkt, sondern in Sachsen-Anhalt und Brandenburg wird ebenfalls gearbeitet. „Wir untersuchen die Böden und verhindern so die Bodenabtragung“, wissenschaftliche Mitarbeiterin der MLU.

Quelle:
Mitteldeutsche Zeitung 09.03.2007

Mitteldeutsche Zeitung 22. März 2007

Halle

Mitteldeutschland und die Erderwärmung - Wissenschaftler warnen vor Wasserknappheit

Politiker hoffen schnell handeln

Politiker hoffen schnell handeln

In der Region Halle wächst die Dürregefahr im Sommer

Quelle:
Mitteldeutsche Zeitung 15.03.2007

Stand: 27.03.2007

Ansprechpartner:
Prof. Manfred Fröhlich

manfred.froehlich@geo.uni-halle.de
Tel: 0345 / 552- 6040 /
Von Seckendorff Platz 4-
06120 Halle / Saale

Land soll mehr tun für Klimaschutz

Strategie-Zentrum gefordert

Von unseren Redakteuren
WOLFGANG BAUM

Halle/MZ: Den Klimawandel macht nicht nur die Stadt Mannfred Fröhlich vom Institut für Geokologie und Geoökologie der Universität kennen illustriert ihn. Uto so sehr ist der Lehrer der Arbeitsgruppe Bodenökodynamik, dass er sagt, dass das Land für die klimafreundlichen Maßnahmen nicht genug tut. „Wir müssen dringend mehr tun“, fordert Fröhlich. „Wir müssen dringend mehr tun.“

Aus seiner Sicht konzentriert sich die Landwirtschaft zu sehr auf die Lufthaltung und den Flächennutzungsplanung. „Wir müssen darüber hinaus gehen, um besonders die Land- und Forstwirtschaft und die Wirtschaft zu unterstützen“, betont Fröhlich. Gerade ein Land wie Sachsen-Anhalt kann hier helfen. „Wir müssen die kleinen Schafe benötigen, denn Lämmer sind wahre Klima- und Wasserspeicher“, erläutert Fröhlich.

All diese Arbeit führt der Geokologe als Projekt an, dass die Bioökonomie und Pflanzenökonomie reichlich auf den Klimawandel konzentriert.

Manfred Fröhlich, der Förster und Landwirtschaftswirt reagiert auf den Klimawandel

durchsetzen wollen. „Was soll in einem ersten Schritt konkret getan werden, wie die Kraftstoffgewinnung aus nachwachsenden Biomassen auf die veränderten Klimabedingungen reagiert. Dann werden die jüngsten Ergebnisse der Wissenschaften erfasst. Durch das Projekt liegt auf dem Tisch ein Plan, der die gesamte Region bis 2050 unterstützen soll, um nicht noch mehr die Treibhausgase von Mitteleuropa emittieren zu müssen.“

Nach seiner Ansicht begrenzt auch jetzt damit direkt begrenzt werden, dass die Landwirtschaft auf die Klimawandlung auf die Wälder in Sachsen-Anhalt reagiert. „Wir müssen dringend handeln, wenn wir nicht weiter rückwärts fahren möchten durch die Erholungsvermögen.“ Dieser Basis kann trotzdem nichts entgegenstehen.

Der Geokologe fordert die Errichtung eines Kompetenzzentrums, in dem die speziellen Probleme, die der Klimawandel für Sachsen-Anhalt erwacht, gehobt und Strategien entwickelt werden. „Zum Beispiel, was wir tun müssen, wenn wir müssen jetzt handeln.“

Quelle:
Mitteldeutsche Zeitung 15.03.2007

Stand: 27.03.2007

Ansprechpartner:
Prof. Manfred Fröhlich

manfred.froehlich@geo.uni-halle.de
Tel: 0345 / 552- 6040 /
Von Seckendorff Platz 4-
06120 Halle / Saale

Poster Example

Lutz Pluemer, Scientific Communication

PERSONALITY, SEX DIFFERENCES, AND MATE CHOICE IN THE EUROPEAN SERIN

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INTRODUCTION

- Animals can demonstrate individual behavioural traits that are consistent over time and in different contexts, also known as personality traits (Réale et al. *Philosophical Transactions B*: 2010).
- Personality has increasingly been the focus of ecological studies to understand the evolution and maintenance of these and its consequences.
- While several hypothesis have been considered, sexual selection has been scarcely studied although it is possible that it may play an important role in the origin and maintenance of personality differences (Schuett et al. *Bio Reviews* 2010).

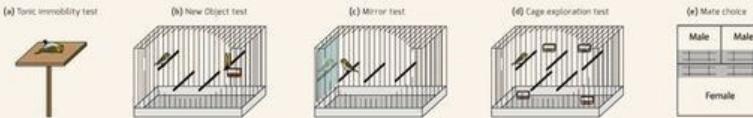


OBJECTIVES

- Study consistent interindividual differences in behaviour in the serin (*Serinus serinus*).
- Understand how sexes differ in their behavioural traits.
- Understand how different behavioural contexts are related and differ between sexes.
- Explore a possible role of personality traits in female mate choice.

METHODS

- Wild serins (30 males and 17 females) were captured, and maintained in an indoor aviary until the end of the experiments.
- Individuals were subjected to four behavioural tests to assess fear (a), neophobia (b), sociability (c), and exploration (d), and tested for repeatable individual differences in two rounds.
- Mate choice tests were performed in an aviary (e) with a random female and a unique combination of two males with similar colouration.



RESULTS

REPEATABILITY

Males and females differ in their consistency

Trait		Repeatability
Fear	All	R=0.283 P=0.007
	Males	R=0.383 P=0.020
	Females	R=0.183 P=0.082
Neophobia	All	R=0.580 P=0.002
	Males	R=0.580 P=0.026
	Females	R=0.580 P=0.026
Sociability	All	R=0.269 P=0.060
	Males	R=0.267 P=0.072
	Females	R=0.265 P=0.075
Exploration	All	R=0.246 P=0.048
	Males	R=0.260 P=0.026
	Females	R=0.246 P=0.048

Note: 1. Repeatability calculated from the first round of testing for the 4 personality traits. Sample size: Total: 47; Males: 30; Females: 17

RELATIONSHIP ACROSS BEHAVIORAL TRAITS

Females and Males differ in their behavioural syndrome



9/22/2020

Acknowledgements:

We thank everyone of the Behavioural Ecology Group for the support. This work is funded by FCT, Portugal, Project SFRH/BD/44837/2008. We held the necessary Portuguese licenses for conducting this work.

CONCLUSIONS

- Individuals showed repeatability in the four behavioural tests.
- Males and females differed in their consistency and behavioural responses across the different tests.
- Behavioural traits were correlated, indicative of a possible behavioural syndrome, but differed between females and males: More neophobic males were also more sociable, and females that were more sociable were less fearful and marginally less explorative.
- In mate choice tests, female personality was related with its own behavioural performance.
- Our results stress the importance of looking for sex differences in personality, and for considering the influence of personality in mate choice context.

SEX DIFFERENCES

Males are more sociable than females ($t = -2.017, P = 0.050$)

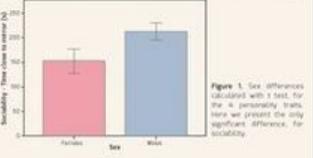


Figure 1. Sex differences obtained with tests for the 4 personality traits. Here we present the only significant difference, for sociability.

MATE CHOICE

Female number of visits to males was related to their own personality trait (sociability: $\chi^2 = 10.455, p < 0.001$)

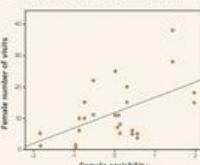


Figure 2. Relationship between female number of visits to males and female sociability. A GLM repeated measures was performed with personality traits as covariates, and sex as factor. The figure shows two PCAs of female personality as covariates, PC1 and PC2, plotted against female sociability.

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Developing and characterising a novel combined nanoelectrode system

L. P. Robinson, A. Mount

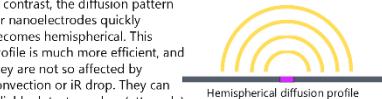


Electrochemistry at nanoelectrodes

Nanoelectrodes have several advantages for electrochemical sensing.



Transport to macroelectrodes proceeds through a relatively inefficient linear diffusion profile. They are also highly affected by convection and IR drop.



In contrast, the diffusion pattern for nanoelectrodes quickly becomes hemispherical. This profile is much more efficient, and they are not so affected by convection or IR drop. They can reliably detect very low (attomole) concentrations of analyte.

A Pt microsquare nanoband edge electrode (MNEE) array system in which the Pt nanoband acts as the working electrode has been developed. The project now aims to create a nanoelectrode device based on this system which has all three electrodes necessary for analysis on one chip.

Fabrication

This design has been fabricated at the Scottish Microelectronics Centre using photolithography. In this technique layers of metal and insulator are deposited and patterned to produce the desired arrangement.

1. Si wafer with oxide surface
2. Metal is then deposited and coated in a nitride passivation layer
3. Photoresist layer is deposited and exposed to UV light through a patterned mask
4. Nitride is removed and process repeated to pattern metal layer

Each layer is deposited and patterned sequentially. This approach reliably produces uniform electrodes cheaply and easily.

Objectives

Having made the initial measurements, the next steps will include;

- complete fabrication of the combined system, including optimisation of nanoband and cavity dimensions
- further investigation of the sensitivity of nanoelectrodes for use in DNA sensing and the relationship between the response and concentration of the target
- optimisation of a galvanostatic silver plating protocol

Ag/AgCl as a combined electrode

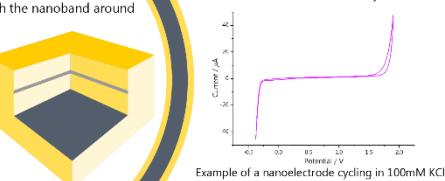
The combined reference/counter electrode is created by electropoating a thin film of Ag onto the Pt microsquare.

Potentiostatic plating causes Ag to grow preferentially at the corners, creating dendrites. A galvanostatic plating protocol is being developed to provide the required smooth, shiny Ag deposit.

To convert the newly plated Ag surface to AgCl, it must be functionalised. Chemical functionalisation by immersion in FeCl_3 has been shown to produce uniform deposits of AgCl.

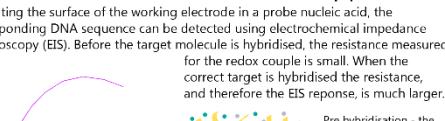
Characterisation

Cyclic voltammetry and electrochemical impedance spectroscopy will be used to verify that the system is behaving as predicted. The nanoband should have a similar reponse to the current nanoelectrode array.



An application

By coating the surface of the working electrode in a probe nucleic acid, the corresponding DNA sequence can be detected using electrochemical impedance spectroscopy (EIS). Before the target molecule is hybridised, the resistance measured for the redox couple is small. When the correct target is hybridised the resistance, and therefore the EIS reponse, is much larger.



Pre hybridisation - the access of the redox species is restricted, and so the resistance rises at the electrode.

Many thanks to Dr Damian Corrigan, Ilka Schmuessner, Professor Andy Mount, the Mount group and the SMC for their continuing support and expertise.



Poster Example

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Lutz Pluemer, Scientific Communication



Institut für Geographie

Geoökologische Untersuchungen zum Wasser- und Stoffhaushalt urbaner Böden im Stadtgebiet von Halle (Saale)

Martin Sauerwein, Andreas Lechner, Steffen Koch, Manfred Fröhlauf



Fachgebiet Geoökologie

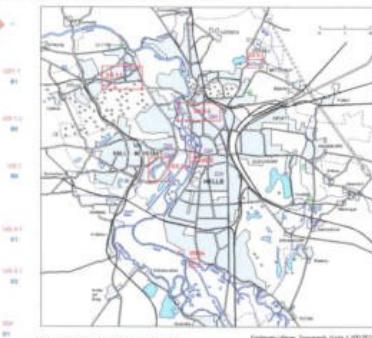
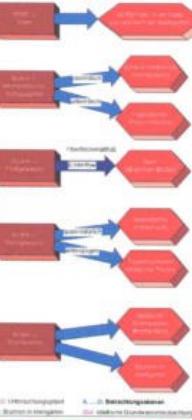
Projektkonzept: Problemstellung - Zielseitungen - Methodisches Vorgehen

städtische Böden wirken nicht nur als Senken für Nährstoffe und Schadstoffe jeder Art, sondern auch als **Stoffquellen**. Hinsichtlich des Stofftransfers übernimmt dabei das **Wasser** auf seinen Pfaden (Sicker- und Oberflächenwasser, Interflow) die **Hauptträgerrolle**. Hieraus ergibt sich nicht nur **Belastungswirkungen** auf unterschiedliche Kompartimente des Stadtkosystems selbst, auch ein Belastungstransfer in andere (benachbarte oder fernere) Ökosysteme. Um diesbezüglich quantitative und qualitative Aussagen zu treffen, soll folgender Fragenkomplex bearbeitet werden:

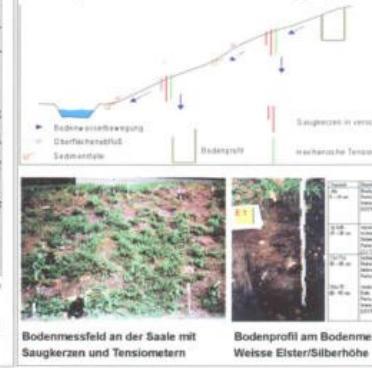
Welche Bodeninhaltstoffe werden über welche Transportpfade in welche aquatischen Systeme zeit- und raumdifferenziert eingetragen und welche Belastungsf/ernwirkung (stadintern und stadtaußen) ergibt sich damit für diese?

Die Problemlösung soll unter Zugrundelegen eines ökosystemaren "Quelle => Pfad => Senke" Ansatzes sowie eines unmittelbaren **Raumbzugs** erfolgen. Dazu bilden **Böden** (als Stoffsinken) verschiedene **Stofftransporttypen** (d.h. unterschiedlichen Alters und spezifischen Belastungspotentials) die Ausgangsbasis der Betrachtung. Die von den Böden ausgehenden **wassergetragenen Stofftransfere** (Interflow, Sicker-Grundwasser) sollen quantitativ und qualitativ erfasst und bewertet werden (**Prozeßgeschehen**). Damit werden sowohl Angaben zur Herkunft der (unterschiedlichen) Stoffe als auch zur zeitlichen Dynamik dieser Prozesse, aber auch Angaben bezüglich ihrer Bedeutung als Belastungsursache für stadtinterne aquatische Systeme erbracht.

Untersuchungsschwerpunkte, Untersuchungsgebiet, Untersuchungsstandorte



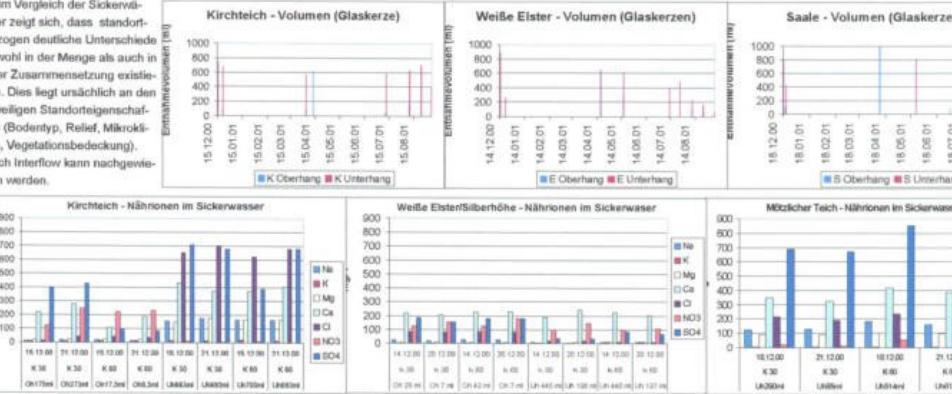
Bodenmessfelder
Im August 2000 wurden im Stadtgebiet von Halle vier Bodenmessfelder eingerichtet. Saugkerzen (Glas und Kunststoff) und Tensiometer in verschiedenen Tiefen eingerichtet und werden seitdem vierzehntägig beprobt.



Bodenprofil am Bodenmeßfeld mit Saugkerzen und Tensiometern
Bodenprofil am Weisse Elster/Silberhöhe

Erste Ergebnisse der Bodensickerwasseruntersuchungen

Beim Vergleich der Sickerwasser zeigt sich, dass standortbezogen deutliche Unterschiede sowohl in der Menge als auch in ihrer Zusammensetzung existieren. Dies liegt ursächlich an den jeweiligen Standorteigenschaften (BodenTyp, Relief, Mikroklima, Vegetationsdeckung). Auch Interflow kann nachgewiesen werden.



Literatur

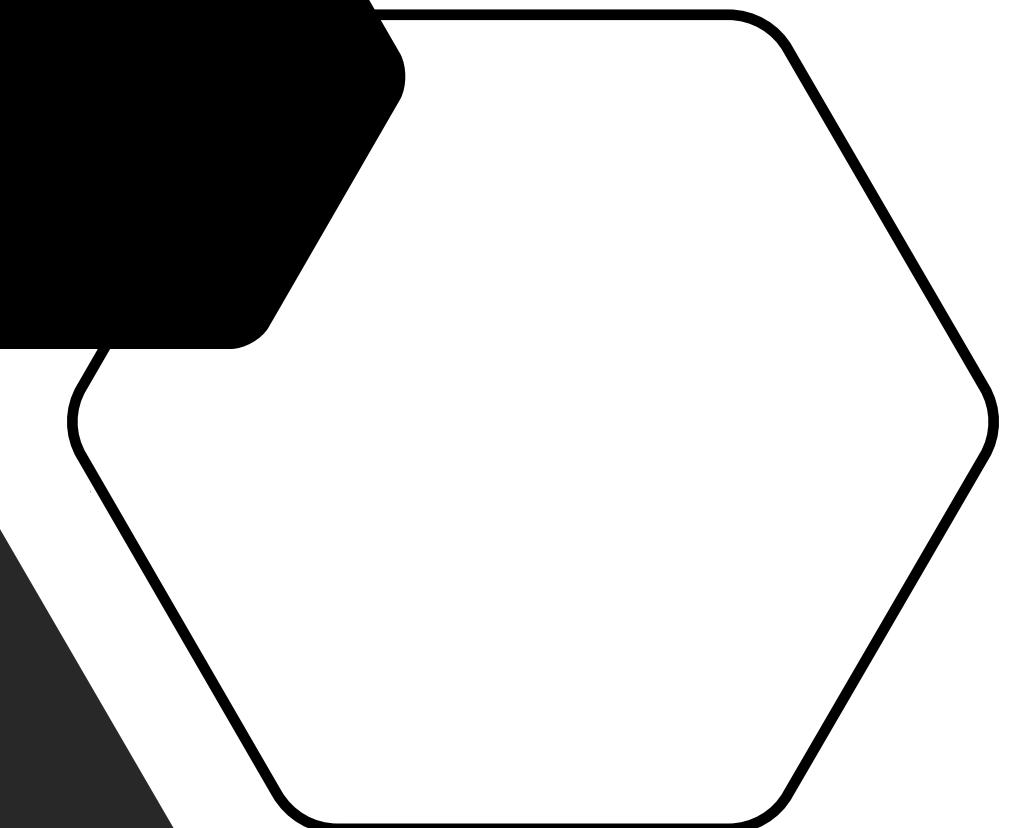
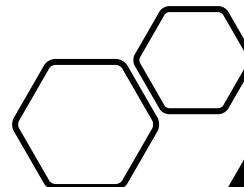
- BREUSTE J., WÄCHTER M. & BAUER B. (Hrsg.) 2001: Beiträge zur umwelt- und sozialverträglichen Entwicklung von Stadtregionen. Leipzig.
- FRÖHLAUF M., SAUERWEIN M. & LECHNER A. 2001: Urbane Böden als Belastungsquellen von Nähr- und Schadstoffen für aquatische Systeme (Fließgewässer, Standgewässer, Grundwasser) – dargestellt am Beispiel der Stadt Halle/Saale. Univ. Halle.
- WALKER M. 2001: Kleingartenanlagen als Stoffquelle für das Grundwasser urbaner Gebiete – dargestellt am Beispiel der Stadt Halle/Saale. Dipl.-Arb. (unveröff.), TU Darmstadt.

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Dieses Poster ist im Rahmen des UFZ-Umweltforschungszentrums Leipzig-Halle finanziert. Das Projekt „Urbane Böden als Stoffquellen für aquatische Systeme“ hat seine Ergebnisse erzielt.

Break



Poster Title

- Make the title attractive and concise, as large as necessary, as short as possible
 - Include important key terms
 - Sufficient Font Size
 - Follow with the names of the authors (presenters)
-
- *(this and the following slides are adapted from
Angelika H. Hofmann, Scientific Writing and Communication 3e,
Oxford University Press)*

Sample Poster Abstract

Make the Abstract no more than 50 to 100 words

Abstract

Purpose

Approach

Main findings

Importance

To examine the food requirements of cardinals, we assessed the feeding frequency as well as the amount and type of food taken at feeders. We found that cardinals require on average 20 meals of 25g a day during spring, summer, and fall. Their preferred food source consists of black sunflower seeds. During winter, birds needed about 33% more food per day. When feeding chicks, males and females both required 55% more seeds. Thus, it is important to offer more food to cardinals during winter and when they are rearing chicks.

No references

Sample Poster Introduction

Include a concise Introduction

Introduction

Background

The landscape of the Middle East has been altered by human activity for most of the Holocene period. Rapid population growth, political conflict, and water scarcity are common throughout the area. All of these factors increase the region's vulnerability to potentially negative impacts of climate change while decreasing the likelihood of successfully emerging region-wide adaptation strategies. In this study, we analyzed climate change in the Middle East during the 21st century as predicted by 18 global climate models. The simulations were run as part of the Intergovernmental Panel on Climate Change Fourth Assessment Report (IPCC AR4) and used the Special Report on Emission Scenarios (SRES) A2 emission scenario.

Problem

Question/
Purpose

Approach

(With permission from Roland Geerken, modified)

Sample Poster Experimental Approach

Summarize your experimental approach only very briefly

Visual presentation

Few words

Structure leads readers through approach

Mechanism of UV Mutagenesis

UV light exposure, 30"



Culture of *P. patens*



Isolate protoplasts according to [2]



Media containing 0 - 2 μ M NAA
Visually select phenotypic mutants



Screen for effects of auxin according to [3]
Classify mutants as described [4]

Sample Poster Results Section

Present results
mainly in figures
and tables

Section title

Results
presented as
visual, not text

Figure legend
with title and
interpretation
of data

Results

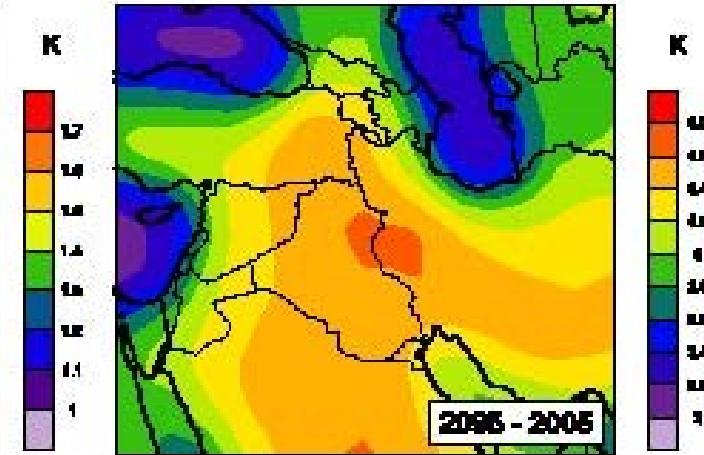
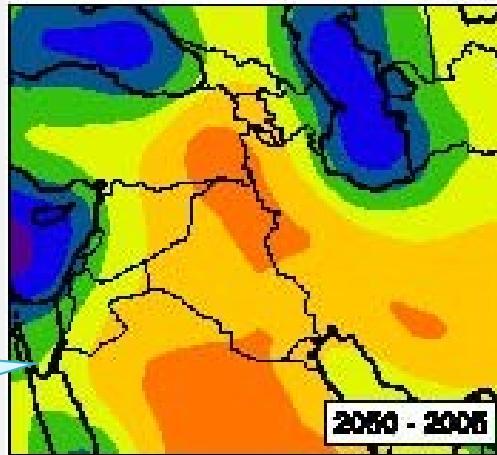


Figure 1. Mean change in annual temperature and precipitation. There is high agreement amongst the global climate models for the predicted temperature change and significant disagreement for the predicted precipitation change.

(With permission from Roland Geerken, modified)

Sample Poster Conclusion

Concentrate on
your main
findings and
their meaning

Main
findings only

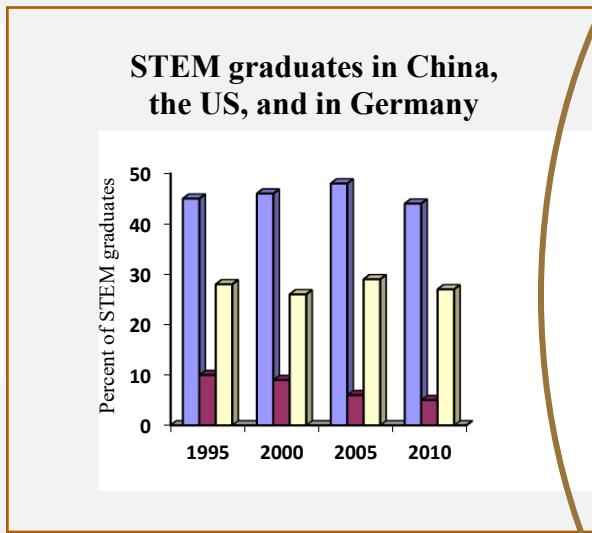
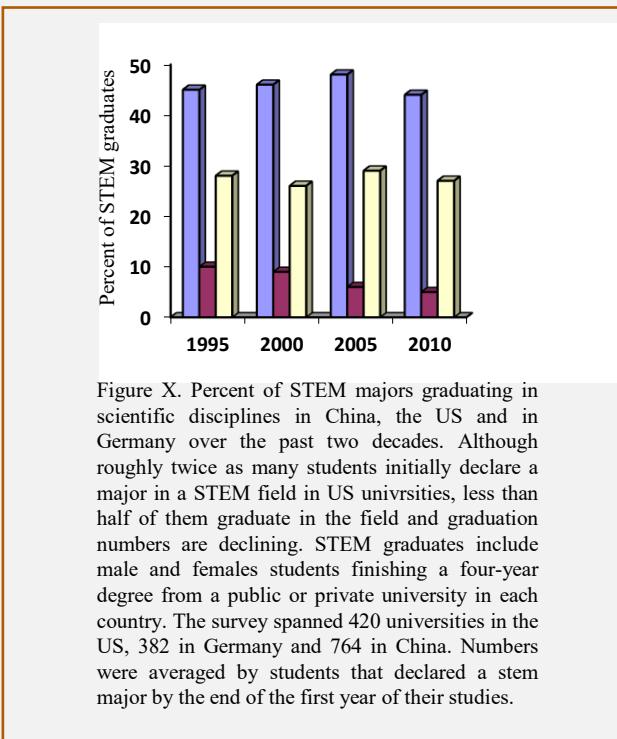
Bullet point
presentation

Conclusions

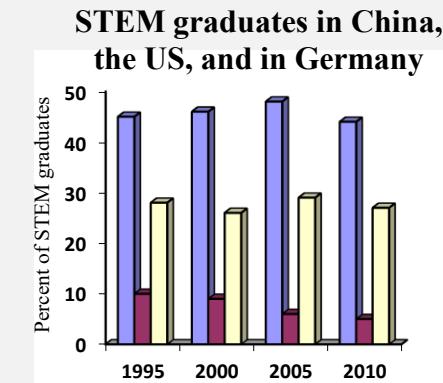
- Mean annual temperatures will increase by ~4K by the late 21st century
- Changes in precipitation are more variable; the largest change is a precipitation decrease that occurs over an area covering the Eastern Mediterranean and Turkey.
- Changes in precipitation will have a significant impact on fresh water resources

(With permission from Roland Geerken, modified)

Illustrations



Text, title and brief legend



We surveyed male and female students for STEM majors at 420 universities in the US, 382 in Germany and 764 in China finishing a four-year degree from a public or private university. Numbers are averaged by students that declared a STEM major by the end of the first year of their studies.

Mindmapping

- Different slides

How to improve Slides (Group 11 as Example)

- Different slides

Midterm Exam

- **3 hours**, equivalent to **180 minutes**
- Writing instruments and empty DIN A 4 pages are allowed. Not more
- Smartphones, computers, hearing aids are **not** allowed. Their use is considered a fraud attempt, the exam is then not passed.
- Toilet visits are permitted, but may not be used to make contact.
- Please write carefully in legible English. What I cannot read is not counted.

- questions and tasks are intentionally open.
- Questions deliberately leave a lot of room for creativity in the answers.
- You are encouraged to solve the tasks the way you think is right. Creativity and imagination are sought after.
- The overall score for the midterm exam is 30 percent.

How to Prepare

- Based on the Slides, study and repeat the lectures so far
- No additional textbook needed
- Have a special focus on communication models
- Have a focus on mindmaps (today)
- Have in mind what makes a good slide, what conveys a professional impression, what makes a presentation interesting