

Scientific Writing

Lessons learnt

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Pattern Recognition Lab (CS 5)

ASTRUM IT GmbH





- Introduction
- Lessons learnt
- Next steps



- Scientific Writing workshop (SAOT)
 - November 21, 2013

- Trainer: Sheila Regan (www.uni-works.de)

- Paper ≤ 12 pages (or poster, slides or ≤ 4 abstracts)
 - Native check
 - Review in a small group (≤ 4 student)



Lessons learnt



Influence of the Phase Effect on Gradient-Based and Statistics-Based Focus Measures in Bright Field Microscopy

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Influence of the Phase Effect on Gradient-Based and Statistics-Based Focus Measures in Bright Field Microscopy

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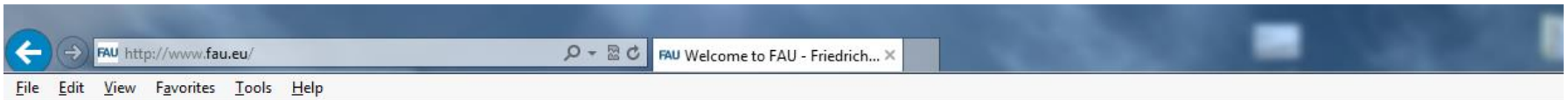
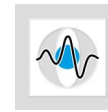
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- Use the University glossary for: the official name of the university, departments, DFG projects, subjects

FAU – official English website



- Prospective Students
- Current Students
- Academic Staff

 search

» Welcome to FAU

Welcome to Friedrich-Alexander-Universität Erlangen-Nürnberg (FAU)

- Welcome to FAU
- University
- Admission and Studying
- Research
- Institutions and Services
- International
- Infocentre

FAU researchers discover new therapy method for deadly autoimmune disease



The IPEX syndrome is a rare and cruel disease that affects newborns and infants in particular. The young patients suffer from severe diarrhoea, diabetes, dermatitis, anaemia, pneumonia, and hepatitis, often simultaneously. A defect in the immune system is the cause of this syndrome. A team led by Prof. Dr. Falk Nimmerjahn from FAU's Division of Genetics has now succeeded in identifying a new therapy method for the autoimmune disease. Their findings were recently published in the renowned journal 'Proceedings of the National Academy of Sciences' (PNAS). [more...](#)

Excellence Initiative

The negative mass effect



Physicists at FAU have proved experimentally that light pulses can accelerate

Performance-driven people are more resistant to stress



People who approach challenges with a



Phase objects like separated single Chinese hamster ovary (CHO) cells are nearly invisible at the optical focus position in bright field microscopy images.

Phase objects **such as** separated single Chinese hamster ovary (CHO) cells are **almost** invisible at the optical focus position in bright field microscopy images.



Table 1: Overview on the image data used for this work.

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Table 6 shows the result of the same process applied on the homogeneous stacks

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They simply need to be learned!

Always learn a word with its accompanying preposition.

- An investigation INTO
- An increase/decrease OF
- An overview OF
- A survey OF
- Substitute sth. FOR sth.
- Replace sth. WITH sth.

What is wrong?



DMEM/F-12 (Invitrogen 21331-046) was used as growth medium

DMEM/F-12 (Invitrogen 21331-046) was used as **the** growth medium



Use the definite article (the):

- When there is only one of something
 - **the** sun
- To suggest there is only one
 - **the** leading authority on...
- When you have already mentioned something
 - **the** model was then applied...
- Before something is defined or restricted by a preposition phrase beginning with „of“
 - **the** rate of acceleration
- For superlatives
 - **the** highest, **the** greatest
- For comparisons with „same“
 - results were **the** same as in the previous experiment



In this section, we compare the behavior of TEN and VAR curves of homogeneous stacks.

In this section, we compare the **behaviour** of TEN and VAR curves of homogeneous stacks.

- Journal of Microscopy:
 - Spelling should conform with The Concise Oxford Dictionary



- Find out whether you should use US, UK or another variation of English.
 - Adjust your language settings and spellcheck
 - Add specialist words to your spellcheck once you have checked your spelling

US	UK
-ize	-ise
fiber	fibre
color	colour
theater	theatre
aluminum	aluminium
A, B, and C	A, B and C



- An imaging system is called *in focus* if a single point of an object is mapped to a single point in the image.
- An imaging system is **considered** *in focus* if a single point of an object is mapped to a single point in the image.
- Comparisons of focus measures for bright field microscopy have been done out for objects that are amplitude objects.
- Comparisons of focus measures for bright field microscopy have been **conducted/carried** out for objects that are amplitude objects.
- The rest of the paper is organized as follows:
- **This paper** is organized as follows:



- Both (a) and (c) show a considerable contrast increase compared to (b).
- Both (a) and (c) show a considerable contrast increase compared **with** (b).
- Comprehensive comparisons of focus measures can be found in ...
- **Extensive** comparisons of focus measures can be found in
- We introduce the term phase effect characteristic (PEC)
- **Here**, we introduce the term phase effect characteristic (PEC)



- As mentioned earlier in this paper, ...
- As mentioned **above**, ...
- **Figure 5:** Image regions that do not have a phase effect characteristic in their focus curves are drawn into the images on the left side. Image regions with exactly one phase effect characteristic are shown in the same images on the right side.
- **Figure 5:** Image regions that do not have a phase effect characteristic in their focus curves are drawn **on** the images on the **left-hand** side. Image regions with exactly one phase effect characteristic are shown in the same images on the **right-hand** side.



- Check consistency

- Mualla, F., Schöll, S., Sommerfeldt, B. & Hornegger, J. (2013) Using the Monogenic Signal for Cell-Background Classification in **Bright-Field** Microscope Images. Bildverarbeitung für die Medizin 2013, Springer Berlin Heidelberg, 170–174.
- Mualla, F., Schöll, S., Sommerfeldt, B., Maier, A. & Hornegger, J. (2013) Automatic Cell Detection in **Bright Field** Microscope Images using SIFT, Random Forests, and Hierarchical Clustering. IEEE TMI 2013, submitted
- Osibote, O. a, Dendere, R., Krishnan, S. & Douglas, T. S. (2010) Automated focusing in bright-field microscopy for tuberculosis detection. Journal of microscopy 240(2), 155–163.
- Redondo, R., Bueno, G., Valdiviezo, J. C., Nava, R., Cristóbal, G., Déniz, O., García-Rojo, M., Salido, J., Fernández, M. D. M., Vidal, J. & Escalante-Ramírez, B. (2012) Autofocus evaluation for **brightfield** microscopy pathology. Journal of Biomedical Optics 17(3), 036008.

- Simplify whenever possible

- „We will use Figure 1 to illustrate that“
- „Figure 1 illustrates this“

- Keep a parallel sentence structure

- „We established ... and decided...“;
- **NOT** „We established...and the decision was made to...“



- Avoid repetition (of words or of structures) within the same sentence or paragraph.
 - *“In this paper, we show that the typical use of TEN and VAR is likely to fail **in the presence of the phase effect**. The following observations were made **in the presence of the phase effect**: “*
- Check your references backwards and use reliable reference management software
- Can't → cannot
- Don't → do not
- First, Second or Firstly, Secondly?
 - Both are correct. Trend: First, Second,

Next steps



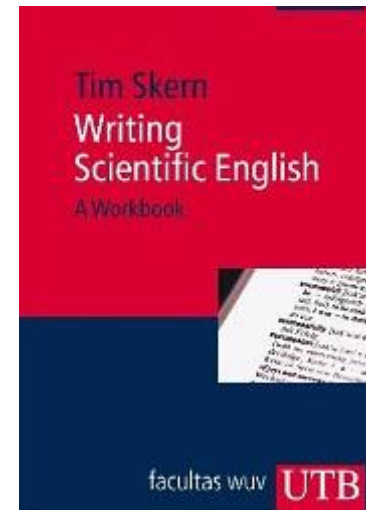
- Merriam Websters dictionary: www.m-w.com
- Linguee: www.linguee.com
- Oxford Dictionaries: <http://www.oxforddictionaries.com/>
- Grammar reference: <http://grammar.ccc.commnet.edu/grammar/>

- Check your phrase: „try it out in google“ with restrictions to site:.edu, or sit:.ac.uk

- Sites for academic writing:
 - „Using English for Academic Purposes“: <http://www.uefap.com/>
 - Purdue Online Writing Lab(OWL): <https://owl.english.purdue.edu/>
- Sites/forums on learning English:
 - <http://www.usingenglish.com/>
 - <http://www.onestopenglish.com/>



- Tim Skern – Writing Scientific English
(for German speakers)





Thanks for your attention!