

## Semesterprogramm der HYT Young Academy Sommersemester 2022

### Semester programme of the HYT Young Academy Summer semester 2022

Do./Thu., 28.04.2022, 16:15-17:45, Raum/Room AR-UB 114

Prof. Dr. Gero Kunter (Seminar für Anglistik, Fakultät I)

#### *"I know what you're going to say" – Do expectations and experiences shape our language use?*

One of the most important things to realize when learning a language is that most of the time, there is a particular order to the linguistic elements. For example toddlers learning to speak German or English will one point start produce simple sentences like \_Mommy play\_ or \_Daddy go\_, showing that they have noticed that you put verbs after nouns in these languages. With increasing linguistic competence, these experiences with possible linguistic structures will become more and more complex so that a fully competent speaker can draw from a wide range of constructions to form their sentences.

But these constructions aren't relevant only when producing sentences – listeners also use their experience with linguistic structures when processing the utterances they hear. For instance, imagine a situation at the checkout of a supermarket: there is only a small number of linguistic utterances that you can expect in this context (e.g. "Do you need a bag?", "Do you want to pay in cash or with a card?", "Do you want me to validate your parking ticket?"), and you can build on these experience-based expectations even if the cashier is difficult to understand because of the noisy environment or because they are wearing a face mask.

In this talk I'd like to give an overview of this phenomenon that may be called "expectation-based language processing", or in more accessible terms, the fact that language users typically have a very good idea what the other is going to say. We will see that the topic can be approached different perspectives such as psycholinguistics or information theory, and that the findings can have very useful applications in our daily lives.

Do./Thu., 05.05.2022, 16:15-17:45, Raum/Room AR-UB 114

Prof. Dr. Wolfgang Krumm (Department Maschinenbau, Fakultät IV)

#### *Wasserstofferzeugung und Phosphorrückgewinnung aus Klärschlamm*

Klärschlamm ist ein unvermeidbarer biologischer Abfallstoff, der in Kläranlagen anfällt. Im Klärschlamm sind wichtige Substanzen wie bspw. Phosphor enthalten, die bei der Entsorgung verloren gehen. Aus diesem Grund verpflichtet die Verordnung zur Neuordnung der Klärschlammverwertung die Kläranlagenbetreiber ab 2029 zur Phosphorrückgewinnung. Im laufenden Forschungsprojekt Sludge2P wird daher mithilfe einer errichteten Versuchsanlage aus Klärschlamm mit dem am Lehrstuhl für Energie- und Umweltverfahrenstechnik entwickelten IPV-Verfahren (Integrierte Pyrolyse und Verbrennung) ein wasserstoffreiches Gas und phosphorreiche Asche gewonnen. Aus dem Produktgas wird H<sub>2</sub> abgetrennt. Die Asche mit dem Phosphor wird durch einen metallurgischen Prozess zu einem Phosphor-Kalk-Pflanzendünger umgewandelt. Mit einem sogenannten Scale-Up kann auf Basis der Versuchsanlage das Basis-Design für eine industrielle Anlage erstellt werden. Zur Auslegung und Wirtschaftlichkeitsbetrachtung der industriellen Anlage wird dabei ein zu erstellendes mathematisches Modell des Gesamtprozesses genutzt.

Di./Tue., 17.05.2022, 18:15-19:45, Raum/Room US-C 111

Prof. Dr. Claudia Wickleder (Department Chemie und Biologie, Fakultät IV)

#### *Light, Lamps, Luminescence – From Basic Research to Applications*

The development of novel light emitting materials is currently a hot research topic, applications are for instance light emitting diodes (LEDs), solar cells, sensors and security phosphors. In this talk, the compounds resulted from our research will be presented after a general introduction of luminescent materials. Furthermore, for all applications a small particle size in the nm (10<sup>-9</sup> m) range is very promising allowing e.g. the use as medical sensors in mice. With this approach it is possible to develop cancer markers or investigate the toxicity of fine dust. For this goal the development of novel synthesis methods is necessary to yield highly efficient materials. Finally, luminescent micro plastics will be introduced, which can serve as sensors for the toxicity of micro plastics. During the talk, the light emission of some efficient materials will be presented in reality.



**Do./Thu., 02.06.2022, ab/from 19:00, Kneipe/Pub "Gartenhaus" (Auf den Hütten 12, 57076 Siegen)**

### *Young-Academy-Stammtisch*

Der persönliche Austausch zwischen unseren Stipendiat\*innen ist ein wichtiger Bestandteil der ideellen Förderung der HYT-Young Academy. In den letzten Semestern kam dieser Austausch sicherlich zu kurz, weshalb wir uns im Sommersemester wieder im „Gartenhaus“ treffen wollen. Vielleicht stehen Sie vor den gleichen Herausforderungen in Ihrem Studium oder in Ihrer Promotion und können sich gegenseitig ermutigen und unterstützen – und natürlich Kontakte knüpfen.

### *Young Academy Stammtisch*

The personal exchange between our scholarship recipients is an important part of the non-material support of the HYT-Young Academy. During the last semesters, this exchange certainly came up short, hence want to meet again in the "Gartenhaus" in the summer semester. Perhaps you are facing the same challenges in your studies or in your doctorate and can encourage and support each other – and of course socialise.

**Di./Tue., 21.06.2022, 18:15-19:45, Raum/Room US-D 109**

Prof. Dr. Otfried Gühne (Department Physik, Fakultät IV)

### *How to write a paper if you don't have results: Examples of scientific fraud*

In modern times, scientists like to publish papers. Unfortunately, it remains difficult to obtain valid scientific results. In this talk I will describe with examples several strategies that have been employed to fill this gap.

**Do./Thu., 30.06.2022, 18:15-19:45, Raum/Room US-D 207**

Prof. Dr. Florian Heesch (Department Kunst und Musik, Fakultät II)

### *Music Production for Everybody? Exploring the Gender Digital Divide in Sound Cultures*

While digitalization concerns most people in the world today, many observations show unequal social participation in the use of digital tools and practices – inequalities that are often called a digital divide. Some social inequalities that already existed prior to digitalization are perpetuated throughout processes of digitalization, as is clearly exemplified by the steadily low quota of women\* among music producers (< 5% with regional variations). While that topic involves complex scientific debates, the workshop offers an explorative approach. As an introductory impulse, illustrative research and teaching material from exemplary cases of negotiating the digital gap in sound cultures will be presented. After that, the main part of the workshop will be dedicated to discussing questions like the following in diverse communicative formats: How do people learn producing music with digital tools? What relevance does their gender have in processes of learning, participating in communities and professionalization? What are the challenges in particular regional areas, e.g., for inhabitants of rural areas who are interested in urban cultures?

**Di./Tue., 12.07.2022, 16:15-17:45, Raum/Room US-D 207**

### *Stipendiat\*innenkolloquium*

Die Stipendiat\*innen der HYT Young Academy kommen aus vielen verschiedenen Bereichen der Universität und forschen zu den unterschiedlichsten Themen. Mit dem im letzten Semester eingeführten Stipendiat\*innenkolloquium möchten wir Ihnen die Gelegenheit bieten, den übrigen Stipendiat\*innen in einem kurzen Vortrag die eigene, spannende Forschung vorzustellen – und im Gegenzug die Forschungsthemen der anderen kennenzulernen. Wie zuvor sind drei Vorträge geplant, zwischen denen es ausgiebig Zeit für Fragen und Diskussionen geben wird. Falls Sie Interesse haben, zum Kolloquium beizutragen, melden Sie sich bitte bis zum 21.06.2022 per E-Mail an [stipendien-hyt@uni-siegen.de](mailto:stipendien-hyt@uni-siegen.de).

### *Scholarship recipients' colloquium*

The scholarship recipients of the HYT Young Academy come from many different areas of the university and conduct research on a wide variety of topics. With the scholarship recipients' colloquium, which we introduced in the last semester, we would like to offer you the opportunity to present your own exciting research to the other scholarship recipients in a short talk - and in return to get to know the research topics of the others. As before, we plan to have three talks, between which there will be ample time for questions and discussions. If you are interested in contributing to the colloquium, please contact us by e-mail to [stipendien-hyt@uni-siegen.de](mailto:stipendien-hyt@uni-siegen.de) by 21 June 2022.