



KuVS Newsletter

2024-06

[Back to Contents](#)

Contents

1	Editor Message	2
2	Interview with new KuVS Spokespersons	3
3	Interview with the GI Special Interest Group Operating Systems	5
4	Awards	7
5	Finished PhD Theses	8
6	Event Reports	13
7	Fun	15
8	Next Newsletter - Deadline November 15th	18



KuVS Newsletter

2024-06

[Back to Contents](#)

Editor Message

Dear KuVS members,

It is a pleasure to announce the 19th edition of the KuVS newsletter, which you can comfortably read during the half-time break of one of the many exciting football matches at EURO 2024.

In this newsletter we provide you with information from the KuVS community from the last six months. In addition to our usual topics such as an overview of awards, completed dissertations, and event reports, this issue also includes an interview with the two new spokespersons of the KuVS, Stefan Schulte and Amr Rizk. Furthermore, the newsletter contains an interview with the spokespersons of our sister group Operating Systems (Fachgruppe Betriebssysteme). They talk about the thematic links to KuVS and why it can make sense to become a member of their group as well. In good company with other major newspapers, we once again offer a humorous riddle by Rolf Windenberg.

We hope that you enjoy this newsletter and that the KuVS team will continue to play with a solid defense, a compact midfield, and that our two new strikers Stefan and Amr will score a lot of goals.

The newsletter editors,

Oliver Hohlfeld

Universität Kassel

Mathias Fischer

Universität Hamburg

Corinna Schmitt

Universität der Bundeswehr München





KuVS Newsletter

2024-06

[Back to Contents](#)

Interview with new KuVS Spokespersons

F: Hi Amr & Stefan, you have been elected as the new co-spokespersons of the GI/ITG Special Interest Group KuVS. Congratulations! Would you like to introduce yourselves?

Stefan: Thank you. We are honored to serve the KuVS community. As for me, since 2021, I am full professor of data engineering at TU Hamburg. Before that, I did my PhD in 2010 at the Multimedia Communications Lab at TU Darmstadt; my doctoral advisor was Ralf Steinmetz. Afterwards, I joined the Distributed Systems Group at TU Wien, first as a Postdoc, and then as a tenured Assistant and Associate Professor. Current research topics of mine are federated learning and blockchain technologies.

Amr: I am happy to team up with Stefan in this new role. We are very excited indeed. As for me, I am Professor for Computer Science at the University of Duisburg-Essen since 2021. I have particular interest in performance evaluation of networked and distributed systems, hardware-acceleration of communication systems and multimedia streaming. During my early career stage, I was with the University of Ulm, TU Darmstadt as well as UMass Amherst and the University of Warwick. I obtained my Dr.-Ing. in 2013 from Leibniz University Hannover.

F: You've known each other for quite a long time. How do you see yourselves working together, given your roles as co-spokespersons?

A: Indeed, we go a long way back. We first met on Stefan's first day as a PhD student at the TU Darmstadt Multimedia Communications Lab, where Amr was already working as a student assistant. The KuVS community can look forward to a well-coordinated management team. We are already in constant exchange about all KuVS-related topics and see ourselves as a tandem that works together to serve the KuVS community in the best possible way. We are certain that our complementary backgrounds and working areas will help us achieve this. We actually do share some of the tasks. Since Amr has a background in electrical engineering, he is the primary contact person for topics related to the ITG, while Stefan is taking care of the interactions with the GI.

F: What will be the focus of your tenure?

A: With currently around 330 active members, KuVS is already a strong community of computer scientists and engineers. But like all professional associations, we need to make sure that we continue to contribute to future developments in our field. In particular, we want to make sure that KuVS continues to attract young researchers and professionals. We intend to further strengthen the different means for exchange between junior members of our community, i.e., the KuVS Summer Schools and the "Fachgespräche". Some of the other GI Special Interest Groups have mentoring programs for young researchers that target an academic career. We are currently discussing the organization of something similar in KuVS as well. We are also interested in broadening some of our events to a more international audience. For instance, by establishing some Fachgespräche which are jointly hosted by KuVS and our European sister organizations.



KuVS Newsletter

2024-06

[Back to Contents](#)

F: Do you have any final thoughts for the readership?

A: We'd like to thank Falko Dressler for his tireless dedication as KuVS spokesperson. His excellent work has laid a very good foundation for our tenure.



KuVS Newsletter

2024-06

[Back to Contents](#)

Interview with the GI Special Interest Group Operating Systems

To put other special interest groups in the German society for computer science and beyond in the spotlight, we will from now on regularly print interviews with their spokespersons.

We start here with our sister group Operating Systems (Fachgruppe Betriebssysteme) and have asked its two spokespersons, Prof. Dr. Peter Ulbrich (TU Dortmund) and Prof. Dr. Christian Dietrich (TU Hamburg), to answer a few questions. They kindly accepted and we print the interview in the following.

What is the thematic focus of the specialist interest group?

The GI/ITG Special Interest Group on Operating Systems (de: Fachgruppe Betriebssysteme, FGBS) is a leading group in the field of system software. Our work is focused on the safe, secure, and resource-efficient operation of computer systems. While our name may suggest a narrow focus on operating systems, our work extends to a vertical understanding of systems encompassing various topics and disciplines, from applications to hardware. Consequently, our members' contributions range from tailored OS concepts to system and performance engineering, design and code analysis, compilers, and HW/SW co-design. Here, the overarching objective is to adapt and improve systems' non-functional properties (e.g., timeliness, dependability, performance, efficiency).

What thematic links do you see with the KUVS specialist interest group?

Our joint membership in the GI's SYS division (Fachbereich SYS) signifies not only a strong bond between FGBS and KuVS but also a shared interest in numerous thematic connections. We want to highlight three key topics:

Modern Network Interfaces: These interfaces input event streams at an extremely high rate into our systems. Efficiently managing and processing these streams necessitates a good balance between user-space and kernel-space tasks and the intelligent handling of multi-core parallelism and memory transfer. For instance, what does an actual zero-copy application-level network protocol look like?

Trusted Execution Environments (TEEs): TEEs offer a potential solution to a core problem of distributed systems: how to trust a remote party to be cooperative. However, efficiently managing TEEs and protect enclave code from the massive attack surface of the host OS is a challenge that requires the expertise of both of both SIGs.



KuVS Newsletter

2024-06

[Back to Contents](#)

Disaggregated Systems: Modern machines with caches, accelerators, and secondary components already exhibit some characteristics of distributed systems. The emergence of disaggregated systems further separates tightly-coupled components via network-like interfaces. For example, CXL.mem, which allows the attachment of inter-chassis memory, could revive the idea of a distributed shared-memory machine.

How do you organize yourselves internally and what events make up your specialist interest group?

Although we peer-review and publish work in the GI digital library upon request, the primary goal of our meetings is to promote low-threshold interaction and networking between our members. Accordingly, we welcome talks by promising students on their recently finished theses just as much as mature research and work recently published in high-ranking conferences. In addition to our meetings, we organize winter schools every two years to foster collaboration among various groups and discuss recent trends. For example, our most recent winter school was held at Castle Reisensburg and focused on "System Software for Disruptive Memory Technologies."

Why should I become a member?

The SIG operating systems offer two key benefits for its members: (1) We are an innovative, active, and friendly community welcoming new members at all career levels. We offer a relaxed setting for building members' networks and developing new ideas. (2) We represent the political interests of system-oriented research and development (R&D) institutions in Germany. Our concerns include the evolution of curricula, standards, and collaborative research projects, which are of particular importance to academia. For example, the ongoing SPP2377, "Disruptive Memory Technologies," was ignited mainly and driven forward by members of our SIG. As a member, one can become involved in such initiatives early.



KuVS Newsletter

2024-06

[Back to Contents](#)

Awards

CNOM Young Professional Award Michael Seufert received the 2024 CNOM Young Professional Award by the IEEE Communications Society (ComSoc) Technical Committee on Network Operation and Management (CNOM). The CNOM Young Professional Award (YPA) recognizes outstanding research contribution and leadership for young professionals in the field of network and service management.

Best Student Paper Award . The group of Lucas Pacheco, Torsten Braun, Denis Lima Rosario, and Eduardo Cerqueira received the IEEE PerCom SPT-IoT 2024 best student paper award for their paper on “An Efficient Layer Selection Algorithm for Partial Federated Learning”.



KuVS Newsletter

2024-06

[Back to Contents](#)

Finished PhD Theses

Michael Eischer

FAU Erlangen-Nürnberg (advisor Tobias Distler)

Title: Geo-Replicated Byzantine Fault-Tolerant State-Machine Replication with Low Latency

Abstract:

Protocols tolerating Byzantine faults allow a service to maintain correctness even if some of its parts misbehave. However, they significantly increase the overhead for processing client requests. Especially for geo-replicated systems, response times can grow to several hundred milliseconds. As the communication latency between remote locations is limited by the speed of light, minimizing these delays requires optimized protocols. This thesis investigates different approaches to reduce the response times of strongly consistent Byzantine fault-tolerant state-machine replication protocols that only require a low number of replicas in a geo-replicated setting. It first reviews the steps necessary to process client requests with strong consistency and derives approaches to minimize the delay introduced by the client communication, the agreement and the execution. To minimize the latency for submitting a client request to the system, each replica is enabled to immediately initiate the ordering for a request, thus allowing a client to communicate with the nearest replica. The proposed Byzantine fault-tolerant egalitarian protocol, which only uses the minimum number of $3f + 1$ replicas to tolerate f faults, accordingly removes the need for a central leader replica by instead agreeing on conflicts between requests. The agreement can complete on a fast path if the involved replicas propose matching conflicts. Before execution, requests are sorted according to their conflicts to ensure a consistent order across replicas. To minimize the latency of the agreement protocol, this thesis introduces an approach based on the architecture of modern clouds. The replicas are split into a central agree- ment group, which determines the execution order for all client requests, with at least $3f + 1$ replicas and multiple execution groups with only $2f + 1$ replicas. Each group of replicas is located in one region, with its replicas distributed across multiple availability zones to minimize the risk of correlated failures. Thus, replicas in a group can communicate with each other with low latency, thereby allowing the agreement to work with low latency. The groups use an abstraction called inter-regional message channel, which allows them to exchange client requests and the agreement results reliably. To minimize the execution latency, this thesis reduces response-time spikes caused by the periodic creation of checkpoints during which the request execution must be paused. Instead, it introduces a concurrent state-capture phase, which starts before reaching the point at which to create the checkpoint. The resulting fuzzy snapshot together with a list of state modifications made by requests executed in the meantime, can be combined into a regular checkpoint that is identical on all replicas. The application interface offers two variants providing different trade-offs regarding simplicity and efficiency. These approaches successfully reduce the client-perceived response times while also reducing the performance variation caused by different configurations and periodic tasks.



KuVS Newsletter

2024-06

[Back to Contents](#)

Jan Pennekamp

RWTH Aachen University (advisor Klaus Wehrle)

Title: Secure Collaborations for the Industrial Internet of Things

Abstract:

The Industrial Internet of Things (IIoT) is leading to increasingly-interconnected and networked industrial processes and environments, which, in turn, results in stakeholders gathering vast amounts of information. Although the global sharing of information and industrial collaborations in the IIoT promise to enhance productivity, sustainability, and product quality, among other benefits, most information is still commonly encapsulated in local information silos. In addition to interoperability issues, confidentiality concerns of involved stakeholders remain the main obstacle to fully realizing these improvements in practice as they largely hinder real-world industrial collaborations today. Therefore, this dissertation addresses this mission-critical research gap. Since existing approaches to privacy-preserving information sharing are not scalable to industry-sized applications in the IIoT, we present solutions that enable secure collaborations in the IIoT while providing technical (confidentiality) guarantees to the involved stakeholders. Our research is crucial (i) for demonstrating the potential and added value of (secure) collaborations and (ii) for convincing cautious stakeholders of the usefulness and benefits of technical building blocks, enabling reliable sharing of confidential information, even among direct competitors.

Our interdisciplinary research thus focuses on establishing and realizing secure industrial collaborations in the IIoT. In this regard, we study two overarching angles of collaborations in detail. First, we distinguish between collaborations along and across supply chains, with the former type entailing more relaxed confidentiality requirements. Second, whether or not collaborators know each other in advance implies different levels of trust and requires different technical guarantees. We rely on well-established building blocks from private computing (i.e., privacy-preserving computation and confidential computing) to reliably realize secure collaborations. We thoroughly evaluate each of our designs, using multiple real-world use cases from production technology, to prove their practical feasibility for the IIoT.

By applying private computing, we are indeed able to secure collaborations that not only scale to industry-sized applications but also allow for use case-specific configurations of confidentiality guarantees. In this dissertation, we use well-established building blocks to assemble novel solutions with technical guarantees for all types of collaborations (along and across supply chains as well as with known or unknown collaborators). Finally, on the basis of our experience with engineers, we have derived a research methodology for future use that structures the process of interdisciplinary development and evaluation of secure collaborations in the evolving IIoT.

Overall, given the aforementioned improvements, our research should greatly contribute to convincing even cautious stakeholders to participate in (reliably-secured) industrial collaborations. Our work is an essential first step toward establishing widespread information sharing



KuVS Newsletter

2024-06

[Back to Contents](#)

among stakeholders in the IIoT. We further conclude: (i) collaborations can be reliably secured, and we can even provide technical guarantees while doing so; (ii) building blocks from private computing scale to industrial applications and satisfy the outlined confidentiality needs; (iii) improvements resulting from industrial collaborations are within reach, even when dealing with cautious stakeholders; and (iv) the interdisciplinary development of sophisticated yet appropriate designs for use case-driven secure collaborations can succeed in practice.

Roman Matzutt

RWTH Aachen University (advisor Klaus Wehrle)

Title: Demystifying and Adjusting the Promises of Blockchain-based Data Management in the Permissionless Setting

Abstract:

The digital currency Bitcoin introduced the blockchain as a data structure that allows its users to establish consensus about who owns which coins in a decentralized manner. Since then, blockchain technology has evolved and now enables distrusting parties to engage in online interactions without the need for a trusted intermediary by immutably recording general events in transactions. This interaction model sparked a tremendous interest in blockchain technology, its potential, and applications. However, the identification of multiple shortcomings has since dampened this initial spirit of optimism. These shortcomings are especially apparent for permissionless blockchains, such as Bitcoin, which openly encourage participation by anybody. For instance, Bitcoin has to secure its blockchain against malicious actors by relying on energy-intensive computations, which further leads to scalability issues as only few payments can be accepted at a time. While prior work has extensively studied such technical challenges, it neglected the influence of the data stored on the blockchain so far. Yet, this influence becomes undeniable: On the one hand, unknown actors can irrevocably append new data without a designated removal process. On the other hand, the operation of a blockchain system depends on a massive replication of its full and growing history. Hence, the impact of blockchain-recorded data requires thorough investigation to ensure the security and longevity of blockchain systems. In this dissertation, we thus take a data-driven perspective to assess and improve the applicability of permissionless blockchains as building blocks for decentralized data management systems. We identify two core challenges of blockchain-based data management, i.e., the need for moderating what data is recorded and the need for alleviating the continually growing storage requirements stemming from the append-only nature of blockchains. Furthermore, we assess the potential of blockchains to enable additional applications by seizing their characteristic properties. We address these challenges on a technical level via the following contributions. As our first contribution, we systematically analyze the phenomenon of blockchain content insertion on a conceptual, technical, and empirical level. Our analysis reveals that content insertion is a common practice and offers benefits for higher-level applications, but inserting illicit content can potentially create devastating consequences for the participants. As our second contribution, we explore means to mitigate these consequences, both before and



KuVS Newsletter

2024-06

[Back to Contents](#)

after the fact, by proposing strategies to prevent the insertion of unwanted content as well as a redactable blockchain that enables a swift and transparent removal of content. Our third contribution addresses the challenge of growing blockchain sizes by defining a gradually deployable block-pruning scheme that is retrofittable to Bitcoin and enables users to retroactively forget obsolete data and thereby reduce their storage requirements. Finally, our fourth contribution shows that permissionless blockchains still hold untapped potential for fueling novel applications despite their limitations; namely, we demonstrate how Bitcoin can help securely bootstrapping decentralized anonymity services. Overall, we shed new light on the potential impact of the data persisted on blockchains. Our analyses and technical contributions therefore widen the scope for resilient and durable blockchain designs for data management tasks.

Alisson Patrick Medeiros de Lima

Universität Bern (advisor Torsten Braun)

Title: Seamless Immersion: The Crucial Role of E2E Latency in 6DoF VR Content Delivery

Abstract:

The fifth generation (5G) and sixth generation (6G) mobile communication systems are envisioned to support several low latency applications, such as Virtual Reality (VR), through Ultra-Reliable Low-Latency Communications (URLLC). This thesis provides significant contributions to address the challenges of low latency communications and processing for VR applications. The contributions are categorized into three research areas. First, we investigate a resource provisioning mechanism that guarantees resource availability and prioritization for real-time VR services. Second, we develop an edge framework to orchestrate VR services through offloading and migration strategies considering the requirements of Six Degrees of Freedom (6DoF) VR applications. Lastly, we propose a novel network routing strategy, which optimizes the latency performance for 6DoF VR applications by calculating paths based on their latency requirements. In the first contribution, we show that our solution provides several improvements compared to state-of-the-art solutions, in which we enhance the resource provisioning requests for high-priority VR services, reduce the amount of over-provisioning resources in edge servers, and reduce the overall service outages whenever edge resources become unavailable. In the second contribution, we demonstrate that our solution outperforms widely adopted mechanisms for service migration to reduce End-to-end (E2E) latency in exchange for a moderate increment in power consumption. We also show significant gains in selecting higher video resolutions for 6DoF VR applications based on E2E latency while providing more accepted context migrations. Finally, in the third contribution, we implement and compare state-of-the-art routing algorithms against our proposal. We consider the Key Performance Indicators (KPIs) flow network latency, path latency, over-provisioned latency, E2E latency, flow network throughput, frame rate, video resolutions, and execution time. The proposed approaches in this thesis hold significant importance for the future of VR applications, particularly in reducing latency and enhancing user experiences. With the growing demand for immersive and interactive VR content, achieving ultra-low latency becomes critical. Therefore, the dynamic resource provisioning mechanism,



KuVS Newsletter

2024-06

[Back to Contents](#)

the VR service orchestration, and the novel network routing strategy developed in this thesis contribute to overcoming the technical limitations of VR systems and maximizing the potential of edge computing. The findings presented in this thesis offer insights for network operators, service providers, and researchers seeking to advance the state-of-the-art in low latency VR applications.

Sven Pullwitt

TU Braunschweig (advisor Lars Wolf)

Title: Efficient Operation of Highly Energy-Constrained Wireless Sensor Networks

Abstract: Networks of energy-constrained wireless devices equipped with sensors, so-called Wireless Sensor Networks (WSNs), have various applications, from automation in factories to precision farming and smart homes. These networks are extensively studied in the literature, and advanced approaches to many challenges, like delay, throughput, and energy consumption, exist. Since the energy supply is a major limiting factor for the performance of WSNs, many advances have been made to reduce energy consumption. Energy harvesting is an approach commonly found in WSNs and allows prolonging the lifetime by collecting energy from the surroundings of a sensor node. Since this energy supply is often very volatile, over-provisioning the energy source and the battery can aid in ensuring high availability. However, increased cost and environmental impact are major challenges, especially for larger networks. In this work, the impact of minimizing the energy source and storage of a sensor node is evaluated, and the feasibility of forming networks of these nodes is assessed. Ambient temperature gradients found between the upper soil layers and the air are studied for their potential to offer novel WSN application scenarios based on limited energy sources. Simulations and real-world implementations are used to characterize this energy source over the span of many months. Based on the results obtained, the implications on a node and network level are studied in simulations and emulation-based lab experiments. The contribution of this work includes a mechanical and electrical prototype design and an evaluation of a real-world energy harvester for ambient temperature gradients. Additionally, a framework for the emulation of temperature gradients in a lab is implemented. Adaptations to the operating system of a sensor node with constrained energy source and storage are studied. Finally, the feasibility of forming a multi-hop network of highly energy-constrained sensor nodes powered by ambient temperature gradients is shown in simulations.



KuVS Newsletter

2024-06

[Back to Contents](#)

Event Reports

ROBUST 2024 - Workshop on Resilient Operations, Byzantine Fault Tolerance and State-Machine Replication

Franz J. Hauck (Universität Ulm)

<https://robust2024.github.io>

On March 13 and 14, researchers in the field of Byzantine fault tolerance and state-machine replication met for a workshop at the FAU Erlangen-Nürnberg. It was organized as a joint event of the GI Special Interest Groups on Communication and Distributed Systems as well as on Operating Systems. Fourteen participants found their way to Erlangen and enjoyed the latest results in the field, which were presented in nine talks. A joint dinner in a student pub provided an additional opportunity for further exchange and socializing. The event has its origins in ad hoc meetings that took place before the Corona pandemic, focusing on theoretical and systemic aspects of protocols for agreement and state-machine replication. This time it was organized as a publicly announced event, which attracted even more researchers. Since the participants liked this form of exchange very much, it may be the beginning of a series of events in the future.





KuVS Newsletter

2024-06

[Back to Contents](#)

2nd Workshop on “Machine Learning & Networking”

The 2nd Workshop on “Machine Learning & Networking” was held in September 2023 at the Hasso-Plattner-Institut as part of the NetSys conference in Potsdam. This workshop also represented the 5th edition of the KuVS Fachgespräch “Machine Learning & Networking (MaLeNe)”.

The workshop was organized by co-chairs Michael Seufert (University of Augsburg, Germany), Andreas Blenk (Siemens AG, Germany), and Olaf Landsiedel (Kiel University, Germany). The workshop attracted 16 full paper submissions. As it is a tradition at a Fachgespräch, MaLeNe aims to foster presentation of early results and discussions of these. Thus, all papers at MaLeNe are reviewed briefly and papers of sufficient quality and fit to the call for papers are accepted for presentation. In the case of the 2023 edition, all submissions were a good fit and of good quality and were accepted. From these 16 submissions and two invited keynotes, we assembled a full-day program. One paper was withdrawn on short notice due to illness of the presenter.

On the day of the workshop, the co-chairs welcomed 57 registered participants. The workshop started with a keynote by Nicola Michailow (Siemens AG, Germany) on “Embodied Agent-to-Agent Communications”. This talk was followed by a session on Machine Learning for Networking. The afternoon session began with a second keynote by Andreas Maeder from Nokia titled “Towards an AI-Native Air Interface in 6G” and was followed by a session on Machine Learning for Wireless Networking and TCP. After a coffee break, a third session on Machine Learning for Security and TSN concluded the workshop.

The workshop co-chairs closed the day with a short recap and thanked all speakers and participants, who joined in the fruitful discussions. Finally, we, the organizers, would like to thank Siemens AG, for supporting this instance of the MaLeNe Workshop series by sponsoring the Best Presentation Award. It was awarded to the following presentation: “In-Network Round-Trip Time Estimation for TCP Flows” by Daniel Stolpmann from Hamburg University of Technology.

In the aftermath of the workshop, 12 participants of the MaLeNe Fachgespräch series joined forces to finalize a survey paper for newcomers to the fields of artificial intelligence and communication networks. It provides a comprehensive overview for researchers investigating the application of machine learning to optimize communication networks and the use of these networks to improve training processes in machine learning. The paper was recently published: Haitham Afifi, Sabrina Pochaba, Andreas Boltres, Dominic Laniewski, Janek Haberer, Leonard Paeleke, Reza Poorzare, Daniel Stolpmann, Nikolas Wehner, Adrian Redder, Eric Samikwa, Michael Seufert: “Machine Learning With Computer Networks: Techniques, Datasets, and Models,” in IEEE Access, vol. 12, pp. 54673-54720, 2024, doi: <https://doi.org/10.1109/ACCESS.2024.3384460> <https://ieeexplore.ieee.org/abstract/document/10489950>.

We would like to thank all the authors and attendees for their contributions to the success of the workshop!

Michael Seufert, Andreas Blenk, and Olaf Landsiedel
MaLeNe 2023 Workshop Co-Chairs



KuVS Newsletter

2024-06

[Back to Contents](#)

Fun

How 2 Shor10 English Texts

Riddles Based on a "Mathematically Oriented Reform" of English Orthography

Rolf Windenberg (alias: Nigel Fred Brown)

The Rules:

1. Usage of mathematical symbols and of numbers
2. Capital letters are pronounced as in the alphabet

Examples:

(Trafalgar)² [meaning: Trafalgar Square]

$\sqrt{66}$ [meaning: Route 66]

Y R U so Z 2dA ? [meaning: why are you so sad today ?]

The Riddles *(Solutions, see on next page):*

- *Beginners:* **the Q is > B4**
- *Playing with Capital Letters:* **2 MUI8**
- *Advanced Persons:*
**even @ Ur older H, U R $\forall$ wAs having
fun on stH**
- *Experts:*
**thO U R rich, U R of10 – happy than Ur
poor gr+pa**
- *Geniuses:*
**this gr8 footb $\forall$ Tm 1 the 3 • 2,
4 several • now**



Fig. 1: Illustration to assist the reader in solving the third riddle (source: [1])



Solutions of the riddles (by Rolf Windenbergl):

- the queue is larger than before [because: the-Q-is-larger/greater-than-B-four]
- to emulate [because: two-M-U-l-ight]
- even at your older age, you are always having fun on stage [because: even-@-U-r-older-H, U-R-all-w-A-s-having-fun-on-st-H]
- though you are rich, you are often less happy than your poor grandpa [because: th-O-U-R-rich, U-R-of-ten-less-happy-than-U-r-poor-gr-and-pa]
- this great football team won the triple, too, for several times [because: this-gr-ight-footb-all-T-m-one-the-(triple two), four-(several-times-now)].



KuVS Newsletter

2024-06

[Back to Contents](#)

Next Newsletter - Deadline November 15th

Next newsletter : 12/2024

Deadline for submissions and contributions : 15th November 2024

We ask you for submissions in English. Topics can be from the following time frame: June 2024 - December 2024

- Fachgruppe KuVS
 - Geschäftsberichte der GI – KuVS – Fachgruppe
 - ...
- News from the working groups
 - Dissertations
 - Awards
 - News from persons
 - Open positions
 - ...
- New projects (DFG, BMBF, KMU, etc.)
 - Initiatives
 - Larger projects
 - ...
- Calls and news from events, conferences, etc.
 - Reports (Conferences, workshops, Fachgespräche, Dagstuhl, doctoral summer/winter schools, ...)
 - Call for papers and participation
(conferences (supported by or hosted in Germany/Austria/Switzerland), Fachgespräche, Summer Schools, ...)
 - ...
- Announcements and important dates

The preferred submission format is text, e.g., using markdown language. Call for papers can also be submitted as PDFs.

Submissions should be done by sending emails to the editors.

<mailto:oliver.hohlfeld@uni-kassel.de>