



*I'm a Scientist,  
get me out of here!*

**Targeting new audience  
with new tools**



NETZWERK  
TEILCHENWELT

# Netzwerk Teilchenwelt

- 30 universities and research labs + CERN
- German-wide outreach for High School students and teachers
- Since 2010: Particle Physics and Astroparticle Physics
- Since 2019: also Hadron and Nuclear Physics (according to German funding scheme)
- Multi-step program from Masterclasses to own research projects
- Activities organized locally or centrally
  
- Project team: TU Dresden / DESY / CERN  
+ hubs in Bonn, Mainz, Münster
- Funding from BMBF (German Ministry of Education and Research)



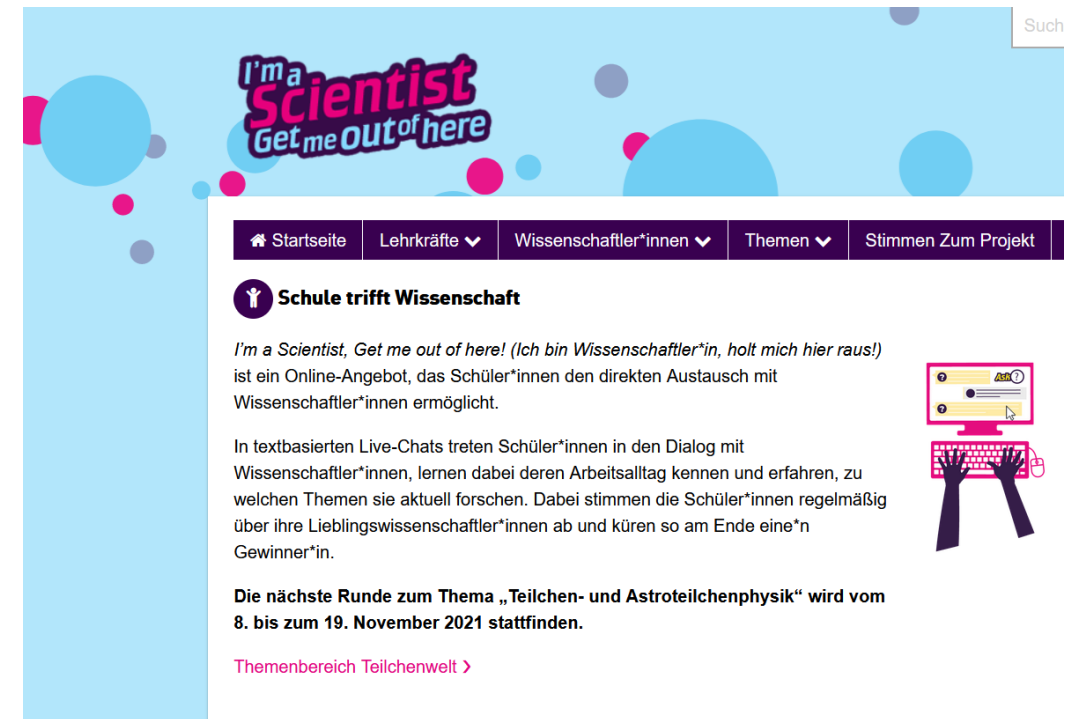
# I'm a Scientist – get me out of here!

- ▶ online, student-led STEM enrichment activity
- ▶ connects school students with scientists through real-time text based chats
- ▶ Students can:
  - **Chat** with real scientists, in real time
  - **Ask** any questions they like
  - **Vote** for their favourite scientists
- ▶ Various rounds of topics (“zones”) throughout the year
- ▶ <https://imascientist.org.uk/>
- ▶ Exists also in Ireland, Spain, and Germany



# I'm a scientist in German(y)

- ▶ Since Nov. 2020
- ▶ Run by Wissenschaft im Dialog (WiD)
  - science community's organization for science communication in Germany
  - founded in 2000 by the major German science organizations
- ▶ Round of topics (2 weeks): infections, sustainability, health, climate change, digitization...
- ▶ 8.-19. November 2021: Particle and Astroparticle Physics (“Teilchenwelt = World of Particles”)



Such

**I'm a Scientist**  
Get me OUT of here

Startseite | Lehrkräfte | Wissenschaftler\*innen | Themen | Stimmen Zum Projekt


**Schule trifft Wissenschaft**

*I'm a Scientist, Get me out of here! (Ich bin Wissenschaftler\*in, holt mich hier raus!)* ist ein Online-Angebot, das Schüler\*innen den direkten Austausch mit Wissenschaftler\*innen ermöglicht.

In textbasierten Live-Chats treten Schüler\*innen in den Dialog mit Wissenschaftler\*innen, lernen dabei deren Arbeitsalltag kennen und erfahren, zu welchen Themen sie aktuell forschen. Dabei stimmen die Schüler\*innen regelmäßig über ihre Lieblingswissenschaftler\*innen ab und küren so am Ende eine\*n Gewinner\*in.

**Die nächste Runde zum Thema „Teilchen- und Astroteilchenphysik“ wird vom 8. bis zum 19. November 2021 stattfinden.**

[Themenbereich Teilchenwelt >](#)



# Teachers and students

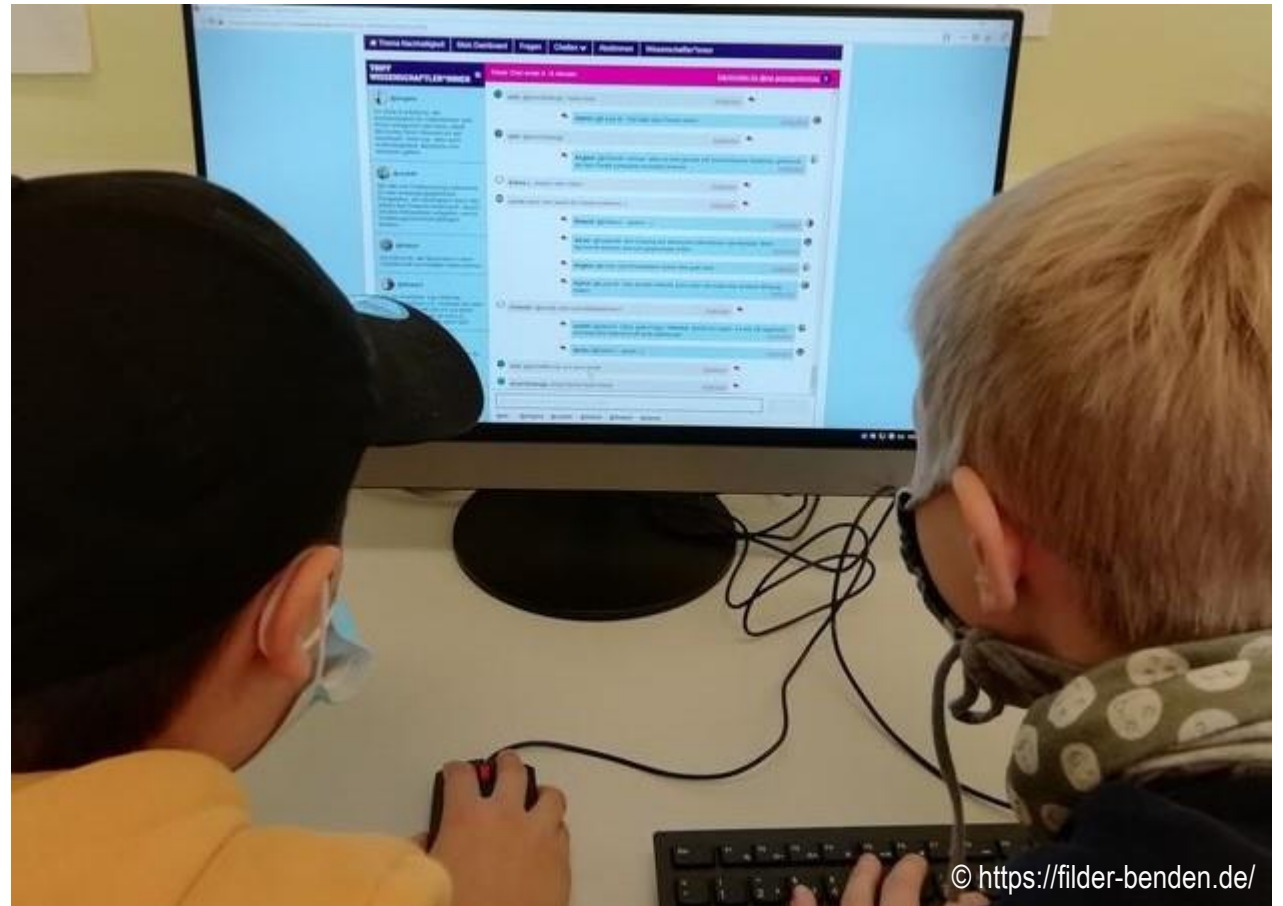
- ▶ Teachers register for the round of topic
- ▶ They book a 30-min timeslot for their class
- ▶ Each slot = text-only non-public live chat
  - Students + teacher, 3 scientists, 1 moderator



© <https://kag-erding.de>

# Questions via Chat

- ▶ Students can ask any question
  - Scientific findings
  - Research methods
  - Everyday work
  - Personal motivation
  - Career path
  - ...



© <https://filder-benden.de/>

# Public Chat

- ▶ Students can ask questions any time, publicly visible
- ▶ Scientists pick questions they would like to answer
- ▶ > 180 questions on Particle Physics collected in 2 weeks

## ? Kürzlich gestellte Fragen

The screenshot shows a public chat interface with a header 'Kürzlich gestellte Fragen' (Recently asked questions). Below the header are four question cards, each in a grey speech bubble shape with a white tail pointing to the user's name below it. The questions are:

- tram6wed: Konnten sie bei einem Durchbruch in ihrem Themengebiet beitragen?
- hima: Wann und woraus entstand Licht , Zeit, und Raum?
- JohannM: Wir stellen uns ja vor, dass unser Universum durch den Urknall entstand. Aber was war eigentlich vor dem Urknall?
- LeonieM: Was lieben sie an der Physik am meisten?

## Example questions

- ▶ Were you able to contribute to a breakthrough in your research area?
- ▶ When and from what did light, time and space originate?
- ▶ What actually happened before the Big Bang?
- ▶ What do you love most about physics?

# Voting

- ▶ Students vote for their favourite scientist at the end of each week
- ▶ After week 2, the winner is announced
- ▶ In our case: Nuclear scientist Dominik Koll, PhD student from Helmholtz-Zentrum Dresden-Rossendorf and Canberra University, Australien
- ▶ 500 Euro prize money for a SciComm project





# Participating Scientists

- ▶ 25 scientists volunteered (Particle Physics, Nuclear Physics, Astroparticle Physics)
- ▶ Call for participation via Netzwerk Teilchenwelt
- ▶ Profile of each scientist on webpage
  - Lighthearted style
  - Field of research, typical working day
  - Favourite subject at school and more questions on school (Did you ever get into trouble during your school years?)
  - Who is your favorite singer or band?
  - What's your favorite food?
  - Tell us a joke!

The screenshot shows the profile page for Christian Klein-Bösing on the 'Thema Teilchenwelt' website. The page features a navigation bar with options like 'Suche', 'Fragen?', 'Chatten', 'Abstimmen', and 'ANMELDEN'. Below the navigation bar, there is a section titled 'TRIFF DIE WISSENSCHAFTLER\*INNEN' with circular profile pictures of other scientists: Yannick, Tina, Merlin, Maria, Henrik, and Christian. The main profile area for Christian Klein-Bösing includes a profile picture, a bio, and a 'Lebenslauf' (CV) section. The bio states: 'Was mache ich in der Wissenschaft am liebsten: Mit anderen Menschen Probleme lösen' and 'Über mich: Ich bin ein neugieriger und begeisterter Wissenschaftler, der gerne an (Computer)Problemen'. The 'Lebenslauf' section lists 'Grundschule (1982-86)' and 'Realschule (1988-1993)'. To the right, there is a section titled 'Questions answered by Christian' with several questions and answers, such as 'Können Experimente in der Teilchenphysik gefährlich sein, so wie man es theoretisch bei Versuchen mit dem Higgs-Boson' and '1. Wie schnell ist Elektrizität? 2. Wie groß ist ein Teilchen?'. The page is decorated with colorful circles and a particle detector graphic.

<https://teilchenwelt.imascientist.de/profile/christiankleinboeing/>



## Feedback

*The half hour was filled with a lot of information and passed very quickly. The scientists were really very friendly and answered all questions understandably, even questions about the everyday life of the people.*

**Student, grade 11**

*This was a completely new experience for me. My students pestered the scientists with their questions and waited with great interest for the answers.*

**Teacher**

*The students had an almost endless interest. Some of them thought deeply and were disciplined.*

**Scientist**

# Media activities

- ▶ Social Media, also BMBF
- ▶ News on project webpages
- ▶ Articles in local newspapers
- ▶ Websites of participating schools



BMBF @BMBF\_Bund · Nov 16

Schülerinnen & Schüler aufgepasst: Als Teil der Online-Aktion „I’m a Scientist“ in Kooperation mit #NetzwerkTeilchenwelt könnt ihr noch bis zum 19. November Forschenden der Teilchen- und Astroteilchenphysik online Fragen stellen. Jetzt mitmachen: [ow.ly/9OPe50GMcZF](https://ow.ly/9OPe50GMcZF)



Foto: Netzwerk Teilchenwelt

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: aktuelles

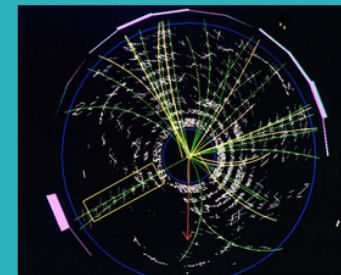


Bild: Famargar/Wikimedia Commons

20. September 2021

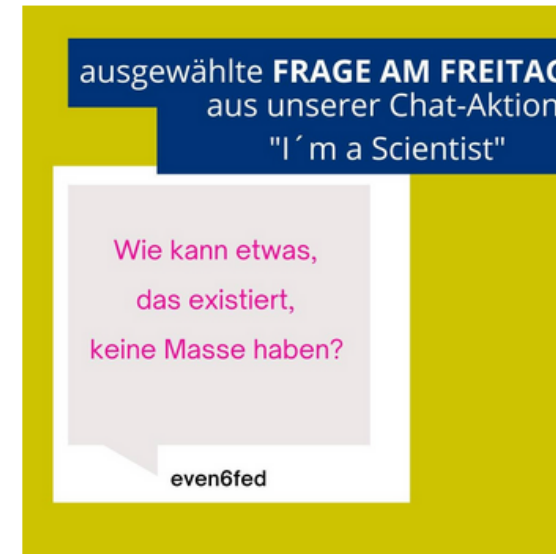
## Live-Chats zum Thema Teilchenwelt

In der Themenrunde „Teilchenwelt“ können sich Schüler\*innen vom 8. bis 19. November 2021 in Live-Chats mit Wissenschaftler\*innen über Teilchen- und Astroteilchenphysik austauschen. Forscher\*innen die mitmachen möchten, können sich bis zum 3. Oktober registrieren. Lehrkräfte sind herzlich dazu eingeladen, ihre Klassen bis zum 10. Oktober 2021 anzumelden. Mehr dazu: [imascientist.de](https://www.imascientist.de)

<https://www.wissenschaft-im-dialog.de/projekte/im-a-scientist/>

# Follow-up

- ▶ Friday Question on Instagram (Netzwerk Teilchenwelt)
  - From Nov - April
  - Broad range of questions
  - New follower



**netzwerkteilchenwelt** Dr. Tina Pollmann (Universitaet Amsterdam) antwortet auf die Schüler:innen-Frage:

"Eine Welle auf dem Meer besteht aus der Bewegung von Wasser. Dabei ist zwar Masse involviert, aber die Welle selbst hat keine Masse, nur das Medium, das bewegt wird, hat Masse. Die Welle ist die regelmässige Bewegung von Masse. Die Welle hat sehr wohl Energie.

Ein Photon hat auch keine Masse. Als Photon beschreiben wir die regelmässige Bewegung von elektrischen und magnetischen Feldern. Ein Photon hat Energie.... [Mehr](#)

# Output and Invest

- ▶ 59 school classes, grade 5 – 11
  - ~ 1200 pupils, ~ 50 teachers
- ▶ 25 scientists involved
  - Each invested ~ 2-6 hours
  - Activity is flexible and works around their schedules
  - Easy recruitment of scientist via existing channels from Netzwerk Teilchenwelt
- ▶ Organisation mainly done by WiD
  - Website, schedule, support for teachers, orientation for moderators and scientists etc.
  - Distribution of information and teaching material on particle physics from Netzwerk Teilchenwelt to the teachers, for preparation and follow-up
- ▶ 4 k€ for a student assistant from Netzwerk Teilchenwelt



## Summary

- ▶ New audience gained: 1200 Pupils from grade 5-11, plus 50 teachers
- ▶ Students engaged via text based chats - chats are very popular with young people
- ▶ Manageable organizational effort for Netzwerk Teilchenwelt
- ▶ Very positive evaluation by scientists
- ▶ Evaluation by I´m a Scientist/Wissenschaft im Dialog:
  - Above-average number of researchers involved
  - material for teachers was noted as very positive
- ▶ Repetition forseen



[www.teilchenwelt.de](http://www.teilchenwelt.de)

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