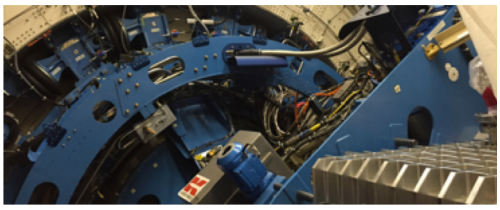
10 Years

WISSENSCHAFT & TECHNIK
omega tau podcast
SCIENCE & ENGINEERING

Information for Guests







> omega tau episodes are technically fascinating – few podcasts dare to delve so deeply into complicated subjects, but your episodes are conducted fearlessly, and the listener is never spoken down on or underestimated - *Michael, Australia*

http://omegataupodcast.net

omega tau

How does our world work?

How do scientists uncover phenomena and explain their connections? How do engineers design machines, methods and infrastructure?

At omega tau, experts give detailed answers. Over the last eleven years, we have produced 300+ episodes in which we dug deeper, until we ran out of questions.

Join us on our journey through the world of science and engineering: the closer you look and listen, the more interesting things become.

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About omega tau

omega tau is a podcast about science and engineering, on the web at http://omegataupodcast.net

In *interviews* we talk to technical or scientific experts in person, or via Skype. For *features* we visit a facility and talk with people there.

Each episode is between 60 and 180 minutes long. This ensures that there is enough time to cover a topic thoroughly. Depending on the guest, each episode is either in English or German language.

We strive for technically accurate content and we give our guests the time to *really* explain things – we are not interested in sensationalism or soundbites. We also want the episodes to be pleasant and, to some degree, entertaining, so they can be consumed during a walk, on the bike or in the gym.

The podcast is non-commercial with no sponsoring or advertisement, financed by listener donations.

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Team

Markus Voelter Founder, Editor, Host
Physics engineer, PhD in computer science; works as an independent consultant for software technology/engineering; http://voelter.de

Nora Ludewig Founder, Editor, Host
Electrical engineer; works at Robert Bosch GmbH.

Support: Bastian Hundt (Coordinator), Stefaan Rillaert, Tim Jurik, Jochen Spalding, Alexander Grote, Pascal Becker, Kolja Dummann, Thomas Machowinski, Andy Joiner

Contact

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Twitter	@omegataupodcast
Google+	http://plus.google.com/+OmegataupodcastNet
Facebook	http://facebook.com/omegataupodcast

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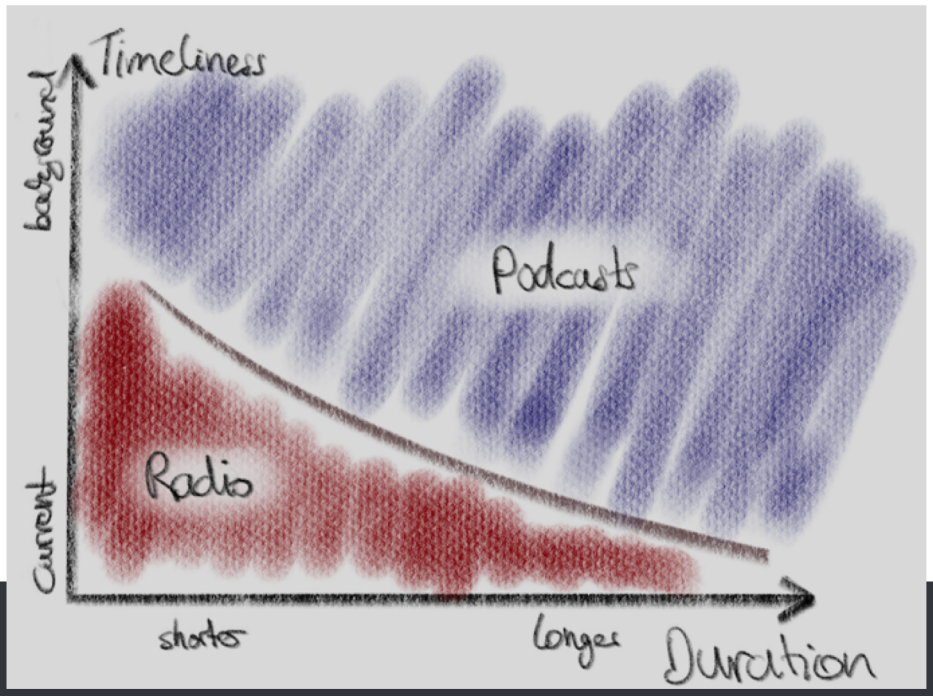
What is a Podcast?

A podcast is essentially a radio show delivered over the internet. It is recorded by us, encoded as an MP3 file (the same format you use for your digital music) and then uploaded to the web. Listeners download the audio file and listen to it either directly on the computer, or on a mobile device. They can also subscribe to the podcast feed using special software (a podcast client), and then get new episodes delivered onto their mobile phone automatically as they are released.

A podcasts have no time limit because, in contrast to a radio show, it does not have to fit into a rigid schedule. Because they are archived on the internet and available pretty much forever, their sweet spot, in terms of content and format, is different from radio: radio tends to broadcast timely, short(er) content, whereas podcasts typically focus on longer background/explanatory content. Relaxed conversations are the best way of implementing this format.

In today's climate of complex problems and short "sound-bite" media, a format in which topics can be discussed and explained in detail is critical. Podcasts are the format to do this.



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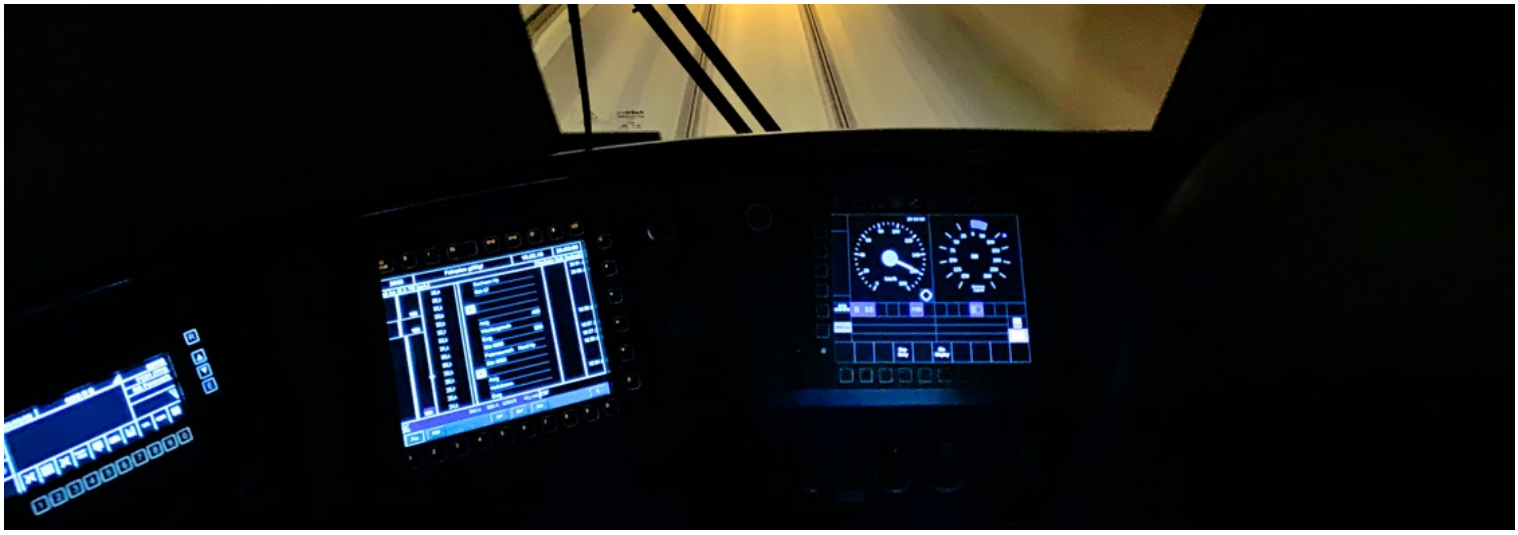
Why we do this

The primary motivation for *omega tau* is our personal interest in the topics and in talking to interesting people: we could not run such a project in our spare time if we didn't have fun doing it. Consequently, the topic selection is biased towards our own interests.

However, we also know that science and engineering do not have a very good reputation in modern (western) societies. Science is often considered boring, sometimes even unnecessary or dangerous. Public interest is correspondingly low, especially in younger people – with negative long-term consequences.

omega tau is our small attempt at improving this situation by discussing scientific and technical topics – and the people behind them – in detail, illustrating their relevance to today's society. Podcasts are uniquely suited to this goal: compared to radio, there are no time constraints and we can produce three-hour episodes, if that serves the topic. Compared to print, podcasts are more personal (because of the voices and emotions of the people involved), and they can be consumed in situations that would otherwise be "lost", because hands and eyes are free to do "real work".



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Recording + Publication

Before the recording, we prepare a list of topics together with the guest. It serves as the backbone of the conversation.

We then record the interview via Skype, via phone or in person.

We edit the recording (for sound quality and consistency) and provide a preview to the guest, if desired. We then incorporate the guest's feedback to create the final episode.

The episode is published as soon as it fits into the schedule – typically within one or two months after recording.

We notify the guest when we publish. Along with the recording, we publish a show abstract and a list of links.

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Audience

Based on a 2015 survey
among 800 listeners

19,500

avg. audience per episode over the recent 100 episodes

95% male listeners, 5% female.

10% are between 18 and 24, 25% are between 25 and 34, 45% are between 35 and 50, and the rest is older.

50% live in Germany, 20% in the rest of Europe, 20% in the US and Canada. The rest all over the World.

8% have a PhD, 55% have a university degree, 20% have a high school degree.

45% work in computers/software, 20% in other engineering, 8% in natural sciences. Many are pilots/“aviation people”.

40% work in industry, 15% each are academics, students or employees in the public sector.

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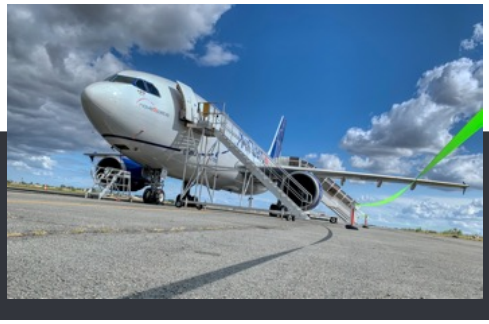
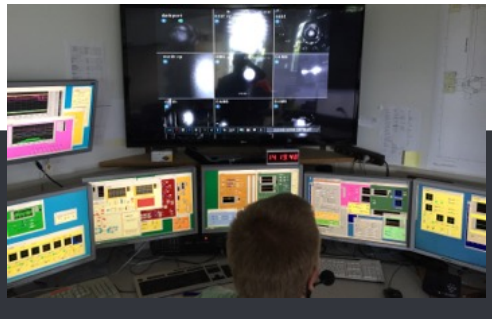
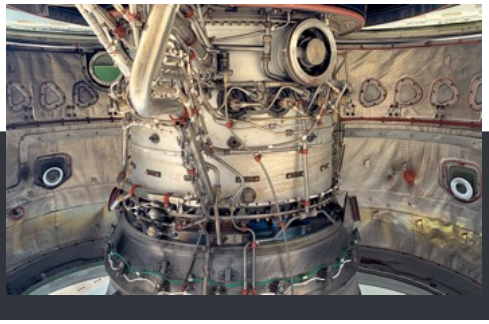
Statistics

as of September 2019

Total Number of Episodes	**324**
Total Downloads	**5,737,000**
Average Downloads per Episode	**17,700**
… in the last year	**22,000**
Max Downloads for Best Episode	**85,000**
Average Episode Rating	**4.49** out of 5
Highest Episode Rating	**4.90** out of 5
Lowest Episode Rating	**3.57** out of 5
Average Episode Length	**96** minutes
Longest Episode	**8** hours
Total Time Produced	**520** hours

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Guests

omega tau is all about the personalities of our guess.
Nonethelss we mention a few organization here.

RESEARCH INSTITUTES

Alfred-Wegener Institut (AWI)
Berkeley Lab
CERN
Deutsches Elektronensynchrotron (DESY)
Deutsches Klimarechenzentrum (DKRZ)
Deutsches Zentrum für Luft- und Raumfahrt (DLR)
European Southern Observatory (ESO)
European Synchrotron Facility (ESRF)
European XFEL
Geomar
Hamburger Schiffbau-Versuchsanstalt (HSVA)
Institut Laue Langevin (ILL)
International Thermonuclear Experimental Reactor (ITER)
Jet Propulsion Laboratory (JPL)
Karolinska Institutet
Leibnitz-Institut für Oberflächenmodifizierung
Leibniz Institut für Molekulare Pharmakologie
Max-Planck-Institut für Gravitationsphysik
Max-Planck-Institut für Plasmaphysik
Netherlands Institute for Space Research
Österreichische Akademie der Wissenschaften
Physikalisch-Technische Bundesanstalt
Planetary Science Institute
Staatlichen Museum für Naturkunde in Stuttgart
Stevens Institute of Technology
Wissenschaftlicher Beirat der Bundesregierung Globale Umweltveränderungen (WBGU)

GOVERNMENT/NON-PROFIT

Bayerischer Rundfunk
Bayerisches Geoinstitut
Chemisches und Veterinäruntersuchungsamt Stuttgart
Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO)
Deutsche Flugsicherung (DFS)
Deutsche Gesellschaft zur Rettung Schiffbrüchiger (DGzRS)
Deutsche Rettungsflugwacht
Deutscher Wetterdienst (DWD)
Integrierte Verkehrsleitzentrale Stuttgart
Klinikum Geislingen
Kreiskrankenhaus Heidenheim
National Aeronautics and Space Administration (NASA)
National Air Traffic Service (NATS)
UniversitätsSpital Zürich

UNIVERSITIES

Bergischen Universität Wuppertal
Cambridge University
Columbia University
EPFL Lausanne
Edinburgh University
ETH Zürich
FZI Karlsruhe
Freien Universität Berlin
Harvard University
KIT Karlsruher
King's College
LMU München
Oxford University
Technische Universität Dresden
Technische Universität München
Technische Universiteit Delft
TU Braunschweig
Uni Regensburg
Universität Bonn
Universität Bremen
Universität Duisburg-Essen
Universität Hohenheim
Universität Innsbruck
Universität Leipzig
Universität Stuttgart
Universität Ulm
Universität Witten-Herdecke
University of Arizona
University of California Los Angeles
University of Pennsylvania
University of Technology Austin
University of Waterloo

MILITARY

Bundesmarine
Bundeswehr / Heer
Dutch Air Force
Luftwaffe
Royal Air Force
Royal Navy
US Air Force
US Army

COMPANIES

Airbus
Ardent
ASML
Bombardier Transportation
CAE Simulation
Condor
Daimler
DB Schencker
Deutsche Bahn
European Transonic Windtunnnel
FEI
Festo
Flughafen Stuttgart
KSG/GfS
Leonhard Weiss
Lufthansa
Maersk
OHB AG
OracleRacing
Planet Labs
Port Towage Amsterdam
Ruhrkohle AG
Rittal
Ritter Sport
Siemens
Surry Satellite Technology
Thermo Fisher
ThyssenKrupp
Torcado
Toyota Motorsport
TransNet BW
United Parcel Service (UPS)
VERBUND AG
Voith
Volocopter
VW Motorsport
Wolfram Research

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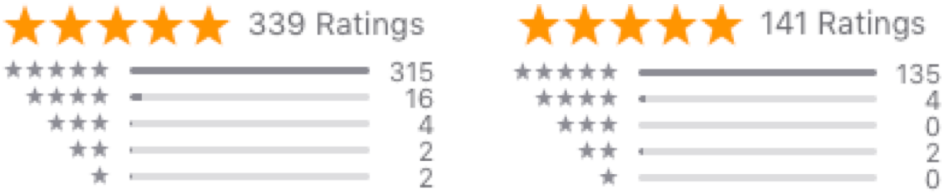
Channels and Social Media

omega tau is available on iTunes & Spotify

plus many other (not so Important) podcast directories.

With near perfect ratings in iTunes Germany and and US.



Available on iTunes

Spotify

We engage with our listener community

to exchange for new episodes, prepare the topics for upcoming episodes and discuss them and provide feedback afterwards.

https://twtitter.com/omegataupodcast
> 3.000 followers

https://www.facebook.com/omegataupodcast
~ 2.000 followers

https://www.instagram.com/omegataupodcast/
~ 200 followers

We use github.com to coordinate the joint work on episode preparations.
https://github.com/omegataupodcast

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Listener Meetups

omega tau

ONCE YOU START ASKING

The omega tau book

Follow Markus into the cockpits of a glider over the Swiss Alps and of a fighter jet over Indiana, onto the bridge of a Royal Navy survey ship, to the largest optical telescope on Earth with the Milky Way reflecting on its two huge mirrors, to a non-descript field in the middle of Germany that hosts an ultra-sensitive gravitational wave detector, and into a mysterious world beneath Geneva that houses the World's largest particle accelerator and the detectors that observe the collisions of elementary particles to probe into the building blocks of our Universe.

But this book is not just a collection of personal adventures of the author -- only the first two chapters on SOFIA and HMS Enterprise are. Instead it covers, in detail, a number of topics that Markus has repeatedly covered in over ten years of recording episodes for the omega tau podcast: aviation and aerospace engineering, astronomy and telescopes, particle physics and large-scale physics experiments as well as models and modeling languages. With 220,000 words, over 150 illustrations and a couple dozen formulas, Markus explains the engineering of the marvelous machines that power modern science.

So how do you control a 17-ton telescope mounted on a 747, and why would you want to do that in the first place? How do multibeam sonars map the sea floor? How can modern gliders fly 100s of kilometers, and why do they take water ballast to do it? How can the SR-71 fly at Mach 3 at 80,000 feet? How do computers reliably control an A320 and why is it so hard to fly a helicopter? How do you build mirrors with surface roughness on the order of micrometers? How do you computationally combine 66 radio dishes into one big interferometer, and how do you combine antennas all over the World to observe a black hole? How do you insolate a detector so well from its environment that it can measure gravitational waves? How do you control the hair-width beam of the LHC to produce millions of particle collisions per second, in order to replicate the state of matter just after the Big Bang? How does a physicist analyse the data produced by ATLAS and CMS to "see" previously unknown particles like the Higgs boson? And what role do models play in all of this? If you've asked yourself any of these questions, this book is for you.

http://onceyoustartasking.com

April 2020

https://www.amazon.com/dp/B086P1P1H3

INSIGHTS, STORIES AND EXPERIENCES

FROM TEN YEARS OF REPORTING ON SCIENCE AND ENGINEERING

MARKUS VOELTER

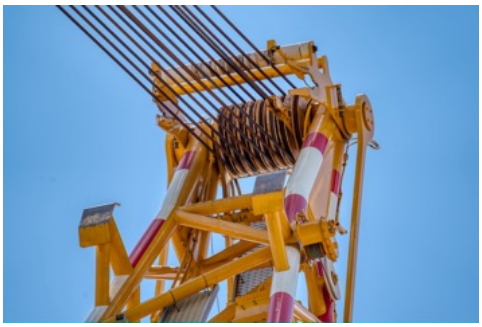
omega tau

omega tau photo

Over the years, we have collected lots of photos taken during interviews and visits. In the past, they have been “buried“ on the episode pages. Since summer 2020 they have their own home on the web:

http://omegataupodcast.net/photos

During future episode recordings we will emphasize the visual aspects to be able to tell a story beyond the conversation.



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What Listeners Say

I really enjoy the depth of these interviews. More interesting than most popular science — *Boyd Adamson*

Your podcast has made my life better :-) – *Jonas*

[…] omega tau is the quasi-standard podcast if I want to look a bit deeper into a topic – *Matthias Brettschneider*

I listen to a number of science podcasts and I like this because it is different from all the other ones I've tried. More in-depth and less news-focused than the pack and it's easy to discern when an interviewer is properly prepared. So well done Markus! — *Cobus Kruger*

Thank you for a superb, insightful interview of Mr. Butler. You [..] obviously put considerable thought into your list of interview questions. Quite frankly, it's one of the best interviews of anyone I've ever had the pleasure to listen to — *Bob Whelan* on Concordia

omega tau covers über-cool science and technology topics like fusion reactors, flight simulators, and deep wreck diving. Unlike other science and technology shows, like the excellent NPR Science Friday, Markus Voelter and Nora Ludewig are willing to spend as much time as it takes to ask all the detailed, dorky questions that we want to know the answers to. They keep asking questions until they find out how things really work. I like to think of it as the "No Black Box" Podcast — *review at thefinchandpea.com/*

[..] excellent interviews with guests about their field of specialty. [..] is an interview with John Chatterton on deep wreck diving.

[..] is an absolutely riveting exposé about the extremely risky affair of diving really deep waters and entering the remains of vessels that have been lying there for ages. It is not only a talk of the technologies involved, [..] but also the mental resilience that is required - *review at anneisaman.blogspot.com*

[...] They are technically fascinating – few podcasts dare to delve so deep into complicated subjects, but your podcasts are conducted fearlessly, and the listener is never spoken down to or underestimated — *Michael from Australia*

Congratulations Markus and Nora on reaching 100 podcasts! Thank you for 100 thrilling and informative ventures into fields of engineering that so few of us would ever meet 'up close' — *Colin Pearson*

I've listened to […] the Large Binocular Telescope for all of its 3-hours. I perceived it as a paragon in audio-casting, a nonpareil of a mental walk-through — *Ivan Verkempinck*
Excellent, immediately replayed the whole 2.5hrs. This is the great thing about these podcasts – no commercial pressure to cut this to a 30min slot — *nobodyspecial* on Container Shipping

[…] just wanted to say that this was a fantastic podcast. Really enjoyed listening to Mike and yourself — *Hardeep* on (Marillion) Music Production

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Imprint

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