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PHOTOGRAPHER PORTFOLIO: SEAN ROMANOWSKI

DAN DCS RESEARCH Unpacking decompression mysteries in the Red Sea

TUNA HASTBERG From iton ore to exploration in the Swedish mine **BACK TO LIFE** Finding strength and recovery through technical diving

EXPLORATION COMPLETE Three Portuguese caves, one historic connection

CAVE ECOLOGY The unseen beauty of underground life in the darkness

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EDITOR'S LETTER

CITIZEN SCIENCE AND DECOMPRESSION RESEARCH

ohn Scott Haldane, the grandfather of decompression science, was not just a brilliant physiologist-he was also a bit of a mad scientist. He willingly subjected himself to dangerous experiments to uncover the secrets of human physiology. In one infamous study, he inhaled alarming amounts of carbon monoxide in sealed chambers, pushing himself to the edge of unconsciousness to understand how it affects blood and breathing. His work laid the groundwork for safety improvements in mining and other high-risk environments. Haldane didn't stop there-he also explored high-altitude physiology by climbing to extreme elevations and simulating altitude in pressure chambers, enduring severe oxygen deprivation in the name of science. Aviation medicine owes him more than a few thank-you notes.

Technical diving today pushes the limits of human physiology in a different way, and solid decompression strategies are essential. But while decompression illness is serious, it's not exactly competing with cancer or pandemics for research funding. That's why the diving community has taken matters into its own hands through citizen science. Thankfully, we can leave the gas chambers to Haldane and still make meaningful contributions without knocking ourselves unconscious.

Citizen science in diving takes many forms. Divers meticulously log their dive profiles depth, time, gas mixes—and share this data via online platforms and research initiatives. Some even volunteer for experimental protocols, all in the spirit of advancing decompression knowledge. The result? A vast, diverse pool of real-world data that reflects how diving is actually done across the globe. Of course, this DIY science has its limits. Data quality and consistency can be tricky, and without large, controlled studies, some questions remain murky. The double-blind study—the gold standard of scientific research—isn't exactly easy to pull off at 100 meters. Still, it reminds us to stay sharp when interpreting results.

For a great example of this in action, check out the article on page 26. It covers a recent collaboration between Divers Alert Network (DAN) and Red Sea Explorers, where ten CCR divers aboard a Red Sea liveaboard conducted deep dives to support DAN's ongoing research into decompression mechanisms. If you want to contribute to science, look out for similar initiatives. By sharing your dive data with the research community, you help deepen our collective understanding of a field that relies on the contributions of citizen scientists.

Dive safe and have fun!

Jesper Kjøller Editor-in-Chief jk@gue.com





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We know how to plan decompression, but not always why it works. A recent ten-day liveaboard study explored why divers seem to produce fewer bubbles after a week of deep, aggressive dives—raising new questions about how the body adapts during repetitive exposure.

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iconic cave systems were finally connected. We trace the journey through decades of dives, challenges, and discoveries, culminating in a landmark moment.

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Growing up near water in Hamburg sparked a lifelong love of the underwater world. After discovering GUE in 2017, diving and photography became a passion. Today, he shares images from lakes, wrecks, and caves

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Kaddi Pajaro shares how diving with GUE helped her recover from breast cancer. Once unsure she'd reach her goal of becoming a technical diver, she faced her fears and turned her passion into an incredible journey.

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CAVE DIVING // ECOLOGY IN THE DARK

For millennia, caves have stirred fear, awe, and fascination. Once shelters and storerooms, they now reveal scientific wonders and hold immense recreational and environmental value. These ancient, evolving systems deserve our curiosity, respect, and protection.



HQ CORNER

The NextGen] - Circles of expanding impact

Since the launch of the GUE NextGen Scholarship in 2019, interest in and awareness of the program have continued to grow steadily. With the 2026 application cycle now open and several new initiatives and collaborations underway, opportunities for the next generation of divers are more abundant than ever. What began with a single Scholar has evolved into an expanding network of programs, outreach efforts, and meaningful impact—each new development reaching a wider audience. This article offers a summary of the current NextGen Legacy Project initiatives within the agency.

would hope that most of the readers are familiar with the Scholarship (if not, then maybe GUE Headquarters will need to find a different person to run the show...). For context, the NextGen Scholarship, open to divers aged 21 to 30, provides tuition-free GUE training for one year, a generous travel budget, and a brandnew set of diving gear from Halcyon. With these resources, the recipient can fuel their passion for exploration and conservation by undertaking GUE training in their preferred locations.

Scholars are self-motivated and directed to undertake training and solicit opportunities best related to the environments they seek and the type of impact they want to impress upon the world. This speaks to the diversity of individuals selected (in their backgrounds, goals, and desires to create a change).

- 2019 Scholar Annika Andresen (NZ), architect, focusing on science communication and empowering women in technical diving
- 2022 Scholar Jenn Thomson (UK / Middle East), expedition science, focusing on recreational / scientific / project diving within the agency and in expeditions
- 2023 Scholar Harry Gunning (UK), videographer and researcher, focusing on skills to craft underwater filmmaking stories
- 2025 Scholar Thanapol Tantagunninat (US/Thailand), marine roboticist, focusing on ways to merge human and technologies together for underwater exploration.

And the Scholarship is still expanding its benefits for the chosen one. New for 2026 onwards, TEXT JENN THOMSON PHOTOS DOROTA CZERNY, LUKE LATHROP & SJ ALICE BENNETT



and subject to availability and prerequisite experiences, the NextGen Scholar has an opportunity to partake in a once-in-a-lifetime expedition to the Arctic or Antarctica with BlueGreen Expeditions. Here, they can take advantage of all the citizen science programs onboard, work with renowned videographers and photographers, and dive in some of the most unique places on Earth. As the Scholarship becomes more established across the world, it is my dream that we offer more curated experiences such as this.

As said, my year focused mainly on recreational and scientific diving and aimed to expand the perception of the agency as a whole and the programs they offer. And, I like to think that I made a difference, for there does seem to be a tangible shift (at least in my biased perception of circles I surround myself in), of those undertaking projects or talking about recreational programs. I like to think that I was able to produce something bigger than myself, which made all the opportunities I was given worth it. However, I wanted to see if there was a way to give the same chances to even more deserving individuals.

Trainee classes – 2nd circle

As an expansion of the NextGen Scholarship, GUE launched the NextGen Legacy Project (NGLP) in late 2023 to support a broader group of young individuals who exemplify the organization's values of passion and impact. Each year, following the review of scholarship applications, a select number of deserving runners-up may be invited to participate as NextGen Trainees—a role that offers personalized support at GUE's discretion. This could include tuition-free courses from GUE instructors, individual mentorship, invitations to join active projects, content creation opportunities, and more.

However, the NGLP is more than just giving more individuals free courses. This project aims to extend the value of GUE's investment in its young divers by creating a strong feedback loop between current and future participants. The group offers both inspiration and like-minded dive buddies. It empowers participants to make meaningful contributions within their communities and organizations, while helping them acclimate to the GUE world through shared advice, motivation, and genuine connection. Simply put, Young Divers – 3rd circle

I recently attended the 2025 Cave and Wreck night in January, where over 450 individuals attended, and probably <5% were 18-30. I remember distinctly sitting in the back of the room with GUE Vice President Dorota Czerny, who motioned to me and said, "What is the problem in the room that we need to change? A lack of younger divers!". However, what was most interesting is that I had the exact opposite conversation with a 20-something-year-old who also attended, who grabbed me enthusiastically; "There are so many of us [young divers] here

more young divers are 'seen' and granted opportunities that they never would have received otherwise.

And this is making a difference. On its second year of solid support for the 2023 and 2025 classes, the groups of Trainees are already making waves in the GUE communities and wider research fields

(pertaining to marine science, creative media, photojournalism, community engagement, and more).

Past Trainees are:

- Becoming established in their interdisciplinary field of forensic anthropology and underwater crime scene investigation, via their skills gained from GUE Fundamentals and Documentation Diver (Lara Indra, 2023 + 2025 Trainee).
- Receiving offers to help on scientific research vessels at their marine biology institution once they hear about their new Tech pass (Flora Gläßer, 2025 Trainee).
- Collaborating with their work in aquariums to establish long-term partners for new Project Baseline sites (Abby Henderson, 2025 Trainee).
- En route to becoming GUE instructors and growing the Scandinavian communities by partaking in an ITC (Gaute Seljestad, 2023 Trainee).

This Program is a unique five-day diving adventure designed to inspire and empower the next generation of divers aged 18-30. this time!" Such different perceptions of the same room, but the shared goal remains embedded in both conversations – we need to continue to increase opportunities for younger divers.

Enter the GUE Young Divers Pro-

gram, soon to be launching in June this year. This program is a unique five-day diving adventure designed to inspire and empower the next generation of divers aged 18-30. With the first one taking place in Cala Gonone, Sardinia, this program offers an opportunity to foster skills, knowledge, and connections within the younger generations.

The program focuses on key areas such as underwater documentation, cave geology, advanced diving techniques, and project diving. Beyond the dives, it's also a chance to network with mentors and like-minded peers in a collaborative, inspiring setting. Different here is the individuals who can participate – instructors could recommend participants who were not only Scholar/ Trainees but other individuals who were passionate about becoming future explorers and making a difference. As a measure of the enthusiasm for this program, this one filled up in a matter of days, with half of the spots for next year (regardless of a lack of definitive dates and location yet), are already secured. Watch this space! The 2025 NextGen Scholar, Thanapol Tantagunninat (US/Thailand), is a marine roboticist exploring the fusion of humans and technology for underwater exploration.

PHOTO LUKE LATHROP



Science Panel – 4th circle

GUE as an agency is rooted in a strong sense of community, the power of meaningful connections, and a shared desire to give back through mentorship. As many in the GUE family have benefited from guidance and support during their own journeys, the natural next step was to create a structured way to offer the same to others. As someone who checks in with the current set of Trainees and Scholars every month, and whom everyone (past and present) has direct access to, I am often the one giving many individuals around the world feedback and advice. However, this regular feedback from young divers made one thing clear: what's missing most are the specific connections and the conversations to get them started (or rather, someone to instigate these connections when they are perhaps lacking the confidence to do so). That's what this panel sets out to change.

Enter the newest (and widest) concentric circle of support: the GUE NextGen Science Panel—a mentorship network built to bridge the gap between experienced researchers and the new generation of scientific divers. Open to all—not just NextGen Scholars and Trainees—this initiative offers a space for anyone looking for mentorship, feedback, or advice on GUE projects, Project Baseline, or related opportunities.

The NextGen Science Panel is composed of experienced scientists from a wide range of disciplines, including marine biology, geology, earth sciences, coastal sedimentology, physiology, and marine genomics. These panel members actively participate in diving-related research projects, maintain strong professional networks, and are working to enhance GUE Projects and Project Baseline activities. Each panel member offers mentorship at their own level of availability-ranging from a one-time networking conversation or developing into deeper project collaborations, depending on the interests and availability of both parties. And while the long-term goal is to expand support across a broader range of needs and scientific activities for more individuals, we are excited to see how this initiative will grow.

FACT FILE // SCIENCE PANEL MEMBERS

PANEL LEADERSHIP

Program Lead Liaison: Jenn Thomson (jenn@gue.com)

CURRENT PANEL MEMBERS AND DISCIPLINES

- Ed Reinhard (Geoarchaeologist)
- Elena Romano (Marine Geology)
- Erik Wurz (Marine Biology)
- Henning May (Sedimentology / Coastal Geology)
- Daniel Ortega (Marine Genomics)
- Todd Kincaid (Geology, Hydrology Project Baseline representative.)
- Marcus Rose (International Marine Science Project Baseline representative.)

FACT FILE // NEXTGEN LEGACY PROGRAM – AT A GLANCE

- 1. NextGen Scholarship one scholar receives a year of training plus travel and gear budget
- NextGen Trainees top scholarship applicants are selected to receive personalized support
- 3. GUE Young Divers Program a course designed for NextGen scholars/trainees and invited young divers to gain project and science experience
- Science Panel a broad-scale mentorship scheme for the wider community to connect younger divers with established mentors

Sometimes, it takes looking back to realise how far you have come. In my case, from a single person saddled with a little imposter syndrome at her given opportunities, to a growing community and second family of young, motivated divers – that can genuinely change the face of the agency as the years go on. I am excited to see where this journey takes us next.■

www.gue.com/nextgen-scholarship



Jenn was GUE's NextGen Global Scholar for 2022–2023, using the year to showcase the role of recreational scuba in scientific work and to launch the NextGen Legacy Project. She soon joined GUE HQ—first as Global Project Coordinator, and now as a member of the Executive Committee, where she leads the NextGen Program, manages the Dive Project department, and supports the expansion of Project Baseline. Her work bridges project diving, expedition vessels, and Neutral buoyancy Labs, connecting the marine and space sectors through scuba and exploration. After three years of insisting she wouldn't, she's now a Tech 1 diver who enjoys collecting bugs in caves.



TEXT MARTINA UTZINGER & CONSTANTIN ENE PHOTOS CONSTANTIN ENE

Deep in the heart of Sweden's Dalarna region, the old mine in the village of Tuna Hästberg is where industrial history meets modern adventure. Once a bustling iron ore mine, it's now been reimagined as an extraordinary destination for divers, climbers, adventurers, and culture lovers alike. Sweden's mining industry has played a huge part in shaping the country's economy, but few old mines have been transformed quite as spectacularly as this one. Here, underground lakes and winding tunnels set the stage for thrilling adventure courses and unique cultural events deep below the surface. Whether you're into history, geology, or extreme sports, Tuna Hästberg offers an experience you won't find anywhere else.

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BERG - THE ADVENTURE MINE

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he exact beginnings of mining at Tuna Hästberg are still a bit of a mystery, but there's evidence that small-scale ore extraction was happening here as far back as the Middle Ages. By the late 1500s, things had

become more organized with mining operations ramping up to meet the growing demand for iron at the time.

The iron-rich ore from Tuna Hästberg and nearby mines supplied a network of local ironworks and smelting cabins, including ones set up near Lake Rämen in 1640. For years, ore from this area played a big role in fueling Sweden's rising iron and steel production.

Tuna Hästberg hit its peak in the 20th century when it was taken over by Stora Kopparbergs Bergslags AB—one of Sweden's mining giants. Under their management, huge amounts of manganese-rich iron ore were pulled from the mine and sent off to power the Domnarvet steelworks in Borlänge.

For centuries, Tuna Hästberg was an important player in Sweden's mining scene, operating nonstop until 1968 when economic pressures finally led to its closure. But even though mining has ended, geologists believe Tuna Hästberg's story isn't finished. During its active years, about six million tons of iron ore were extracted, but surveys suggest another 16 million tons of high-quality ore remain untouched beneath the surface. It's a powerful reminder of just how rich this ground is.

After the mine closed, the pumps were turned off and the tunnels slowly filled with groundwater. For decades, it stood silent and abandoned—a forgotten relic of a bygone era.

Rediscovery of Tuna Hästberg

The long silence at Tuna Hästberg was finally broken in 1998 when Daniel Karlsson—now CEO of Adventure Mine Tuna Hästberg—and his friend Nicklas Myrin stumbled upon the abandoned mine deep in the forest. What they found sparked the beginning of an incredible journey.

By 2000, they were ready to take their first dives in the mine, although conditions back then were pretty rough. There was no pulley system, no staircase—just sheer determination. Every piece of diving gear had to be carried by hand down into the mine, which made those early dives physically exhausting. To lighten the load, they roped in family and friends to help, but over time the tough, demanding work caused many of their helpers to drift away.

Things started looking up around 2006. That's when they installed a cargo rail lift capable of hauling hundreds of kilos of equipment down into the mine, along with a proper staircase. Divers could now use hand carts to move their gear from the lift to the diving platform. These upgrades made the site far more accessible and helped it gain popularity, especially with divers from Finland, who had already played a big part in the early exploration efforts.

With a lot of personal effort and dedication, Daniel and his team kept developing and modernizing the site. They added a sturdy platform to make getting in and out of the water easier and installed lights inside the tunnels and halls. In 2019, they gave the original platform a major expansion—now it comfortably accommodates more than 20 divers at a time. The area is thoughtfully set up with two levels: the upper deck for changing clothes, and the lower one for final prep before heading into the water.

As for the mine itself, it's layered with different depths. The first level sits between 5-15 m/15-50 ft, followed by the second at 34 m/112 ft, the third at 74 m/243 ft and the fourth plunging all the way down to 114 m/374 ft. It's a dive site that offers plenty of adventure at every level.

Deep mine diving

Back in 2010, Tuna Hästberg became the site of an ambitious deep exploration diving project. A skilled team of divers from Sweden, Norway, and Poland came together for the mission and it turned into a historic moment—they managed to reach a depth of 114 m/374 ft for the first time in the mine's recorded history. Their goal was simple but daunting: explore, document, and map the flooded sections of the mine.

For years, there had been an old rumor floating around about a hidden iron-ore train somewhere deep in the tunnels. Two ore carriages The diving platform features convenient benches for equipment preparation and serves as the starting point for most dives. PHOTO CONSTANTIN ENE

PHOTO CONSTANTIN ENE

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With its switch and fuse boxes, the electrical installation room evokes the mine's industrial heritage. had already been discovered—one of them could even still roll along its tracks! So naturally, people figured if the carts were still down there, maybe the engine that once pulled them wasn't far off.

According to the old mine maps, there was supposed to be a workshop at the 114 m/374 ft level. An elderly man from a nearby village who had worked in the mine back in the day told the team that's exactly where the carriages were usually parked when they weren't in use. That bit of local knowledge brought the legend of the missing engine back into focus and sparked a new wave of curiosity.

The deep dives carried out during the project answered a lot of questions—but stirred up just as many new ones. The team confirmed that the tunnels at 114 m/374 ft were more or less frozen in time, filled with artifacts and details that hadn't been disturbed in decades. They

A typical dive day

Your day kicks off bright and early with a meet up in the parking lot at 09:00. First things first: you'll unload your dive gear from the car and get it onto the cargo rail lift. This lift does the heavy lifting—literally—dropping your equipment 80 m/260 ft underground to the main dry level, which leads you straight to the diving zone. Down there, the water level sits about 85 m/280 ft below the surface.

Now it's your turn to make the descent! You'll head down a staircase with 385 steps, set at a steep 45-degree angle. From the moment you start the climb down, wearing a helmet is mandatory. You can bring your own or borrow one from Adventure Mine. A good headlamp is also highly recommended—these tunnels aren't exactly flooded with light.

Pro tip: double-check your gear before heading down. Bring snacks (instant soups or back-

found the workshop and, not far from it, an old office. There were even stories about a sleeping room the miners used down there, but the divers ran out of time to search for it—decompression obligations come first, after all.

And the rumored

train engine? Still a mystery. But if it's there, chances are it's resting somewhere on that 114 m/374 ft level, probably close to the workshop they found.

Alongside their exploration, the team also did extensive photo and video documentation at both the 74 m/243 ft and 114 m /374 ft levels. They laid down around 500 m/1,500 ft of guideline at 74 m/243 ft, and another 60 m/200 ft at the deeper level. In total, they completed ten dives to 114 m/374 ft and fifteen to 74 m/243 ft.

For context, the mine itself descends all the way down to 467 m/1,532 ft below the water's surface. While ROVs—remotely operated vehicles—have explored some of those deeper reaches, no human diver has ever made it all the way to the bottom. Yet.

While ROVs—remotely operated vehicles—have explored some of those deeper reaches, no human diver has ever made it all the way to the bottom. Yet. packing meals work great) and drinks to keep you going. Tea and coffee are already included in the daily diving fee of 60 Euros. And don't forget warm clothes and sturdy footwear—boots or hiking shoes are your best bet.

If you do forget something, no worries, you can go back for it... just be ready to tackle those 385 steps again!

Once you've reached the dry base level, you'll unload your gear from the lift and use a handcart to roll it through the tunnel to the diving area. For convenience, there are two toilets close to the lift, so no need to worry about that.

At the diving zone, there's a compressor room with a bottle bank offering nitrox as well as options to fill up with 100% oxygen, helium, and argon for your suit inflation cylinders. Right next door is a bigger hall where the main diving platform is located. It's set up with two levels: the upper one is for storage, changing, and briefings, complete with a big whiteboard showing the line map of the area. You'll also find a cozy



PHOTO CONSTANTIN ENE

Echoes of the past: an old mining installation featuring wooden pillars once used to secure and stabilize the tunnels. That bit of local knowledge brought the legend of the missing engine back into focus and sparked a new wave of curiosity.

FACT FILE // ONGOING PROJECTS

As for what's happening below the surface, there are a couple of exciting diving projects currently in progress at Adventure Mine. One is focused on creating a detailed 3D map of the main diving levels, while the other continues to explore and expand the line mapping of the system. A big shoutout to Daniel Karlsson, founder and CEO of Tuna Hästberg Adventure Mine, and Anders Etander, Chief Supervisor of Diving and Dive Project Manager, for their incredible work and support in making it all possible.

If you're curious to learn more, check out www.adventuremine.se

heated room with a microwave and water boiler—perfect for warming up, grabbing a bite, or socializing between the dives.

Plenty to explore

The lower level of the platform is where you'll gear up before heading into the water using the diving ladders. The water is crystal clear, and you can easily spot the decompression bar at 6 m/20 ft right from the surface. But make no mis-

cold, oxygen-free water, the mine's chambers are incredibly well-preserved. You'll pass by wooden bridges, doors that still swing smoothly on their hinges, storage huts, pipes, control panels with switches and levers, and ladders that look like you could climb them right now. Two iron ore carriages remain perfectly in place, one still sitting on its original tracks, just as it was left.

The water temperature stays at a steady 4 °C/40 °F year-round and the air temperature in

take—these waters are cold! Divers wear drysuits, often with electric heating systems and high-performance undergarments to stay warm. During long decompression stops, keeping your body temperature stable is crucial. To help with

These drills simulate diving accidents and take participants through the entire rescue process, from first aid to transporting the injured diver out of the mine and handing them off to emergency services. the mine above the water is the same. Visibility underwater? Easily 30 m/100 ft or more.

If you're planning to dive again the next day, you can leave your gear on the platform overnight. Just take your batteries (if they need charging) and any undergarments you want to dry. Your gear

that, there's a habitat set up inside a natural rock crevice along the "Indy" route at 4.5 m/15 ft. It's got benches and space for up to four divers to decompress in dry conditions. And there are plans to add two more man-made habitats—one at 9 m/30 ft and another at 21 m/70 ft—expected to be ready by 2026.

As for dive routes, you've got plenty to explore! From the 19th century until the early 20th century, 20 km/12 mi of tunnels were dug in the mine, of which 7 km/ 4.5 mi of permanent guidelines take you through various depth levels.

Time capsule

One of the coolest things about diving here is that time feels like it's stood still. Thanks to the

will ride back up to the surface on the lift while you make the climb.

Before every dive, there's a mandatory briefing to cover safety protocols and guidelines. You have to log your dives on the whiteboard so the Keyholder knows which teams are underwater and which routes they're diving. Teams also check in with staff before starting their dive and again when they're back.

Twice a year, a full-scale safety drill is run in the mine. These drills simulate diving accidents and take participants through the entire rescue process, from first aid to transporting the injured diver out of the mine and handing them off to emergency services. To keep communication open at all times, Wi-Fi is available in the diving-platform area.



In 2024 alone, around 2,500 dives were completed by roughly 700 registered divers. That same year, Adventure Mine also hosted about 65 diving events.

Training and events

Because diving in the mine can be pretty demanding, there are strict certification requirements in place to keep things safe. At the very least, you'll need an Advanced Open Water certification if you want to join any guided open water dives. On top of that, certifications for drysuit diving and night diving are a must—the cold water and limited visibility inside the mine call for some specialized skills.

If you're hoping to explore the deeper sections or head into the more technical areas of the mine, you'll need to have a cave or mine diving certification under your belt. And to make sure everyone has enough experience to handle the conditions, divers are also expected to have at least 25 logged dives before heading in.

One of the big upcoming events at the mine is the second official GUE Meeting in October

2025—a unique gathering that's bringing together some seriously skilled divers. The focus? Technical diving, advanced mine exploration, and conservation efforts. Led by GUE instructors, including Annika Persson and Mattias Vendlegård (who sadly passed away in March 2025), the event offers a great chance for divers to share knowledge, fine-tune their techniques, and take part in important conversations about preserving underwater heritage sites.

This year, they're expecting around 20 GUE divers from Sweden, Norway, Denmark, the USA, and France to join in on the action.

In 2011, the mine got its new name—"Äventyrsgruvan" or "The Adventure Mine"—marking its transformation into a place that celebrates its industrial past while offering all kinds of adventure experiences. Since then, it's become a magnet for visitors from around the world divers, climbers, event organizers, and history buffs all come to explore what the mine has to offer. Today, it's a vibrant hub for mine diving, Via Ferrata climbing, cultural performances, guided tours, team-building activities, and even At the same time, ongoing investments in the mine's infrastructure continue to improve the experience for everyone, all while preserving that raw, untouched, and authentic vibe that makes Tuna Hästberg so special.

sauna sessions deep underground. It's a one-ofa-kind destination where history and adventure go hand in hand.

Adventures for everyone

Sure, diving might be the main reason people come to Tuna Hästberg, but there's a lot more waiting to be explored.

If you're up for an adrenaline rush, the Via Ferrata climbing course takes you along underground rock walls—perfect for thrill-seekers who want to take their adventure to new heights (or depths!).

Prefer something a little more cultural? The old mine transforms into a magical venue for concerts, theatre performances and art exhibitions. There's something special about experiencing live music and art in these vast, echoing spaces underground.

And when it's time to unwind, the underground sauna is hard to beat. Inspired by Sweden's deep-rooted sauna traditions, this guided experience blends heat, cold, and darkness—all while paying tribute to the Lady of the Mine. According to local legend, she was a protective spirit who watched over the miners and kept them safe. Today, visitors honor her by stepping into the warm embrace of the sauna, surrounded by history and a touch of mystery. After a full day of diving or climbing, there's nothing quite like warming up in this cozy underground retreat. It's the perfect way to wrap up an unforgettable adventure.

Looking ahead

Year after year, the Tuna Hästberg Adventure Mine just keeps getting more popular. Hundreds of divers make their way here annually—from recreational enthusiasts to skilled technical divers—each one drawn by the chance to explore this unique and challenging environment. Thousands of dives take place every season and the numbers are still growing.

At the same time, ongoing investments in the mine's infrastructure continue to improve the experience for everyone, all while preserving that raw, untouched, and authentic vibe that makes Tuna Hästberg so special.

Looking to the future, the Adventure Mine team has some exciting plans in the works. One of their big goals is expanding the network of mapped diving routes to give divers access to parts of the mine that have never been explored before. They're also working on enhancing the underground event spaces, making them even more versatile for performances, corporate gatherings, and cultural events.

But it's not just about diving. New adventure activities are being added to the lineup, designed to appeal to a wider crowd and make sure there's something for everyone to enjoy. Whether you're a thrill-seeker or just looking for a unique experience, the mine has you covered.

On top of all that, Tuna Hästberg is strengthening partnerships with universities and diving organizations. The goal? To support ongoing research and offer specialized dive training in mine diving and cave exploration.

The future is looking bright (even deep underground) at Tuna Hästberg!■

FACT FILE // HIGHLIGHTS

Some of the main highlights include:

- The First and Second Wagon
- The Mirror Room
- Indy
- The Old Mine (where the water mysteriously drops to a chilling 2 °C/35 °F)
- The Hanging House
- The Abyss
- The Electric Room
- Østra/Vestra Platform
 - The Water Tank

PHOTO CONSTANTIN ENE

The main shaft descends at a 45-degree angle, leading directly to the 34 m/12 ft, 74 m/243 ft, and 114 m/374 ft levels—and beyond. Related reading: The Långban mine, another interesting Swedish Mine, was featured in *Quest* magazine Vol. 25, No. 3. Time feels like it's stood still. Thanks to the cold, oxygen-free water, the mine's chambers are incredibly well-preserved.

PHOTO CONSTANTIN ENE

FACT FILE // TRAVEL INFO

Tuna Hästberg village and its famous Adventure Mine are tucked away in central Sweden. You'll find them about a three-hour drive from Stockholm, conveniently located 25 km/15 mi south of Borlänge and 25 km/15 mi north of Ludvika. The area is surrounded by peaceful forests, rolling hills, and beautiful lakes—perfect if you're into hiking, fishing, or just enjoying nature between dives.

Even though the mine sits in a fairly remote spot, there are several accommodation options to suit different needs: **BASIC GROUP ACCOMMODATIONS** are available at the "Old School" in Tuna Hästberg village.

CABINS AND COTTAGES are located about 18 km/11 mi away.

HOTELS can be found in both Borlänge and Ludvika, roughly 25-30 km/15-18 mi from the mine.

OVERNIGHT RV PARKING is available directly at the mine (just keep in mind the facilities are pretty minimal).





Constantin Ene

Constantin Ene started diving in 2004 and has completed about 2,000 dives, mostly in cold water. He joined the GUE community in 2011 and, after a Cave 1 class, focused on cave and mine diving. Now a JJ-CCR full cave diver, he combines diving with underwater photography. In 2019, he made his first dives in the Adventure Mine at Tuna Hästberg, impressed by its variety and logistics, and in 2024, he attended the first official GUE meeting there. Constantin is also an active diver in the Långban mine, located about 1.5 hours south. There, he serves as a keyholder and event organizer. Constantin is a board member of the Norwegian Cave Diver Association (NGDF).

GUE PREMIUM DIVE CENTERS

Area 9 Mastery Diving – Kralendijk, Bonaire	
Base1 – Sardinia, Italy	
Deep Dive Dubai – Dubai, UAE	
Dive Centre Bondi – Bondi, NSW, Australia	dive centre bondi
Duikcentrum de Aalscholvers – Tilburg, Netherlands	CORALIC HOLVER YOUR # GUE DIVING CENTE IN THE NETHERLANDS
Eight Diving – Des Moines, WA, USA	
Exploration Diver – Hangzhou, China	
Extreme Exposure – High Springs, FL, USA	EXTREME EXPOSURE
Islas Hormigas – Cabo de Palos, Spain	Club de bacos Club de bacos Cabo de Palos Www.listanormgas.com
Living Oceans – Singapore	LIVING OCEANS PREMIUM DIVING SOLUTION
Scuba Academie – Vinkeveen, Netherlands	enderoo



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www.scuba-academie.nl

www.divetechkorea.com

Tech Korea – Incheon, South Korea

Third Dimension Diving – Tulum, Q. Roo, Mexico

www.thirddimensiondiving.com



ZERO GRA

Zero Gravity – Quintana Roo, Mexico

www.zerogravity.com.mx



GUE DIVE CENTERS

Suddy Dive Resort – Bonaire	
Dive Alaska – Anchorage, AK, USA Communication www.divealaska.net	
Faszination-Tauchsport – Sauerlach, Germany	
Dive in Essen – Essen, Germany	10
KrakenDive – Tossa de Mar, Spain	
Living Oceans Malaysia – Kuala Lumpur, Malaysia	

Moby Tek Dive Center – Pahang, Malaysia

Paragon Dive Group – Arizona, USA

Plongée Nautilus – Quebec City, QC, Canada

Scuba Adventures – Plano, TX, USA

Scuba Seekers – Dahab, Egypt

www.scubaseekers.com























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