

FRANCE LOCAL NETWORK
ANNUAL GENERAL MEETING

20th Nov 2024
SESSION Nov 2023 - Oct 2024

Working to engineer a better world



Chairman's report

Its official, The IET France Local Network is Back!



We have had a successful year with highlights including the visits to ITER and to the Observatoire de Haute Provence in May, we have held online events on cyber-security, we have welcomed new volunteers through our activities and look to be able in the near future to create student groups to support students on placement within France Universities. We have supported events from the ICE such as the recent visit to St Flour and the Garabit and Millau viaducts as well as publicising events for the IET Switzerland and Barcelona Network. It is all rather exciting.

Not only this, but seeing as 2024 marks the 30th Anniversary of the Network, at least as far as the French Loi 1901 Associations Registry is concerned, we have taken a dive into our history dating all the way back to the first IEE representatives in France in 1887 and are publishing this history through EngX to celebrate the network and the members and volunteers who have made it what it is over the years.

That being said, our membership numbers are still falling with recent metrics showing we have 270 members in France, a drop of over 20 members compared to this time last year which demonstrates the challenges that remain for us on the road ahead.

The IET itself is going through a period of change. This will have an effect not only on funding of the France Network but also in an urge to return more fully to in person meetings and lectures. Seeing the spread out nature of the network this will not be an easy pivot to achieve fully but we have ways to help us re-orient ourselves.

First off, we will work to replicate the success of our flagship visit of 2024 to ITER with a follow up visit in the field of aerospace in 2025. We will also work to organise some lower key visits for our members.

We will continue working with our local student contacts and provide a package for them to really profit from IET membership through local events and activities as well as a chance to gain EngTech certification during their studies and be handed over to their home networks at the end of their studies to boost their chances at finding that elusive first job out of university.

We will likely still feature some online events and lectures but may organize them to co-inside with regular networking sessions perhaps held in tandem with other engineering institutions.

Time, as they say, will tell. Our work so far has put us in a good position and we are starting to build momentum. Let us keep pushing.

Morgan Bonici IEng MIET

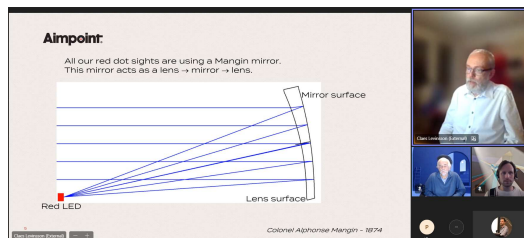
France Local Network Chair 2024

Listing of Main Events

Date	Event
7-Nov-23	Annual General Meeting
25-Nov-23	Paris Metro ICE visit
6-Feb-24	Cyber Security Webinar
23-Apr-24	ICE lecture on Nuts and Bolts
27-May-24	ITER Visit
28-May-24	Observatoire Visit
3-Oct-24	Garabit-Millau ICE visit

IET France LN AGM 2023 - 7th Novembre 2023

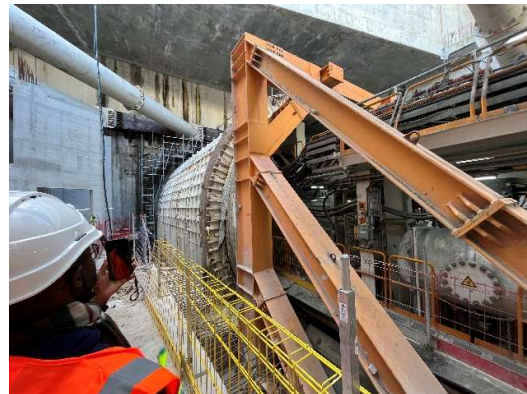
The France Local Network held its 2023 Annual General meeting on the 7th November. Our key-note speaker Dr. Claes Levinsson who shared with us on how red dot hunting scopes work. This was followed by the AGM proper where the committee for 2024 was confirmed.



While the lecture had some attendance from members outside of France, the AGM itself was poorly attended. Nevertheless, the meeting was successful with the 2024 committee voted in.

ICE visit to Sevran-Livry Metro station construction site - 25th Novembre 2023

On a chilly but bright Saturday morning thirteen engineers from the ICE and IET were invited to visit the construction site of the Sevran-Livry station on the new Metro line 16, part of the Grand Paris express project. The site had been excavated down to tunnel level pending the passage of the TBM (Tunnel Boring Machine) "Houda" to pass through. After the TBM passage the station would be completed and covered. We were lucky to visit whilst the TBM was actually in the station, the cutting face had recently started the exit tunnel and we could observe the operations that take place behind the face. Usually, one only sees the back end of a TBM when it is in the middle of a tunnel.

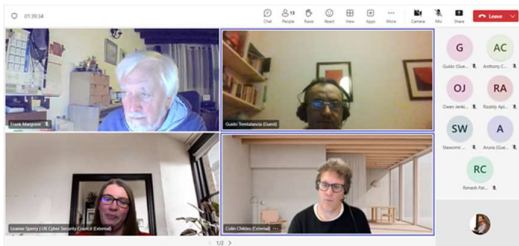


The multinational construction team working for the Italian Webuild company welcomed us and gave a fascinating presentation and visit.



Cybersecurity Webinar - 6th February 2024

The IET France Local Network held its Cybersecurity evening on the 6th Feb. Our Treasurer Colin Childes of Childes Cybersecurity Consultants, and Ms. Leanne Sperry of the UK Cyber Security Council presented to 15 attendees from France, the UK and Italy.



Colin shared on the history of the internet and the attached technologies and how it was initially designed as a closed network hence with little security in mind from which it snowballed into what it is today. It was interesting to see by just how much it has grown and how complex the interactions are that link almost everything we do today, and just how vulnerable it is to bad actors.



Leanne followed up with an Introduction to the UK Cyber Security Council and its efforts to provide a framework for Cyber Security Professionals similar to the UK-Spec Chartership framework for engineering we know so well.

IET France Local Network visit to ITER and the Observatoire de Haute Provence (OHP) - 27th-28th May 2024

The IET France Network in partnership with the Institute of Civil Engineers organized a visit to the ITER construction site and the Observatoire de Haute Provence for their respective members and guests.

The ITER visit included a tour of the construction site including the main building and the tokamak 'pit' as well as a presentation provided by Ms. Margaret Graham, IET Honorary Fellow and Project Manager in charge of the Ion Cyclotron Project (plasma resonance heating), in which she outlined some of the great engineering challenges in constructing the research reactor.

ITER (International Thermonuclear Experimental Reactor) has been in construction since 2007 and is currently expected to be completed by around 2027. It is the next iteration of applied research fusion reactor since the Joint European Torus (JET) in Oxfordshire (UK) built in the 1980s and decommissioned last year and the Inertial Confinement Fusion (ICF) device at the National Ignition Facility in California completed in 2009.



While JET managed to maintain a fusion reaction for up to 5 seconds (before the heat generated forces a shutdown), it has already demonstrated the ability to 'just' produce more energy in these 5 seconds than was needed to start the reaction. ITER, with its improved design is planned to be able to operate for ~15 minutes and hopefully meet its milestone of being able to produce 10 times more power than it consumes.



Based on this design, the next planned iteration called DEMO will be built as a final prototype before fusion reactors can be rolled out to power plants worldwide.



Nuclear fusion, namely the fusing of Hydrogen into Helium as occurs in the core of our sun is widely seen as the holy grail of power generation as once perfected, will be able to provide clean energy without radioactivity as one gram of deuterium-tritium fuel (Two isotopes of

Hydrogen) can generate as much energy as 11 tonnes of coal leaving behind only Helium and heat. It has famously been considered to be 30 years from becoming widely useable since the 1950s which is a testament to how complicated it is to harness.

The current tokamak design will involve holding the plasma at 150 million °C (that's 10 times higher than the temperature of the sun's core) in a vacuum chamber while the magnets controlling the plasma and reaction just outside need to be held at 4°K (-269°C), almost absolute zero for the superconductors to work. Each individual section of the chamber weigh-in at over 400 tonnes and their shipping has required the local motorway network to be upgraded to runway grade strength to allow their transport from the Port of Marseille to the site, as well as having to remove part of a mountain to widen the highway.

We will definitely see if we can hold a follow up visit in a few years once the construction is complete and perhaps see in action our pocket star core in the Provençale hills.



The following day, we headed out to the Observatoire de Haute Provence where we were hosted by its director Dr Marc Ferrari.

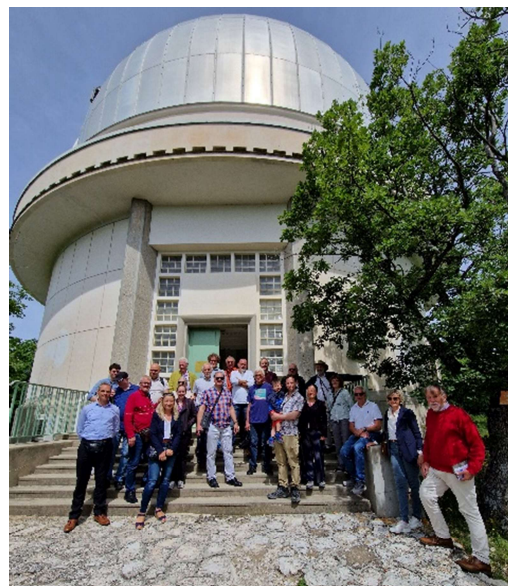
He presented the 1.93m main telescope installed in the 1950s and its dome explaining how it and the other telescopes on the site were used to periodically measure tens of thousands of stars building the world's largest database of stellar luminosity.



By measuring the doppler shift differences in stars over decades, they managed to discover the first exoplanets in the 1990s using the presented ELODIE spectrograph. This resulted in Michel Mayor and Didier Queloz receiving the Nobel prize in Physics in 2019 for the confirmed discovery of 51 Pegasi b. It has since been replaced by the improved SOPHIE spectrograph installed in 2006 and currently in use.



It was fascinating to learn how the spectrographs were used to detect 'wobbles' in a star's velocity in respect to the earth caused by planets orbiting it. While the earlier equipment was sensitive enough to detect changes in the $\sim 100\text{m/s}$ range. This could detect large planets orbiting close to the stars termed hot-Jupiters. The newest equipment can detect 'walking speed' changes in velocity allowing for smaller and further away planets to be detected.



ICE visit to St Flour, Garabit and Millau viaducts - 3rd-6th Octobre 2024

The ICE France Centre organised a three day visit to St Flour and the Cantal region which was supported by the IET France Local Network. It began with a reception at the St Flour mairie and welcomed by geologist Basile Jabvneau who hosted a tour of the town explaining the geological significance of the local area.



The second day kicked off with a visit to the Garabit Viaduct designed by Gustave Eiffel. Guided by local expert Ms. Patricia Rochès we examined the masonry abutments and Eiffel's innovative plate and rivet steel pier design.



This was followed by a visit to the Millau viaduct, the worlds tallest bridge. Hosted by the lead engineer of its construction Michel Virlogeux we observed the hydraulic systems used to launch the deck sections during construction and explored the inside of the bridges tallest pier P2).

The day concluded with a combined in-person and webinar presentation on both viaducts. With detailed slides, we learned about the historical context and the construction techniques behind these engineering marvels.



This was followed and ended with a visit to the Château du Sailhant, a medieval castle built by a waterfall on an ancient lava flow.



A heartfelt thanks to Michel Virlogeux for sharing his expertise, Patricia Rochès for her engaging presentation on the Garabit Viaduct, and Lucy Rew for helping create this opportunity. Special appreciation goes to the mairie of St Flour for their warm welcome, and to ICE committee members David Woodhouse and Hügo K. for organizing the trip.

Treasurer's Report

A budget of 1490€ was allocated to the France Network for 2024 by CC-EMEA with option to apply for extra funding if required.

We have spent a total of 1643.15€ on the ITER and Observatoire de Haute Provence visits in May 2024 and have an open invoice for our contribution to the ICE Garabit and Millau Viaduct visits of Oct 2024 for 165€ bringing the total spend for 2024 to 1808.15€

The IET France Local Network has been granted GPC cards through which to pay for our future events These are currently held by Morgan Bonici and Colin Childes in their capacity as Chair and Treasurer respectively.

We have submitted a budget request to CC-EMEA of 3545€ for 2025 and are awaiting approval.

The IET France Network Social Account has had a balance of 1674,01€ as of the 31st Oct 2023 and a balance of 1381,09€ as of the 20th Oct 2024.

Monthly bank fee (Nov 23-Oct 24)	62.72€
BCC Membership (2024)	30.00€
RBL post box (2023)	200.00€

We have paid 30€ for BCC membership, this is inclusive of a 10€ late fee.

200€ was sent to the Royal British Legion as a donation for the use of the RBL post box throughout 2023. We have ceased to use this service in 2024.

This marks a total of 292.72€ spend from the social account from Nov-23 to Oct-24.

The social account was initially created as a way to have members pay in to shared meals and events however in view of

limited usage and the high cost of keeping the account open, its continued status will be discussed and voted on in the 2024 AGM.

Colin Childes

France Local Network Treasurer 2024

Membership Statistics - Oct 2024

Member Type	
Fellow (FIET)	27
Honorary Fellow	2
Member (MIET)	204
Technician Member (TMIET)	5
Associate	25
Student	6
Member (MIET) Applicant	1
Total no. of members:	270

IET France Local Network Committee

2024 Term	Position
Morgan Bonici	Chairman
Stuart Burton	Honorary Secretary
Colin Childes	Honorary Treasurer
Phil Dunbar	Committee Member
Ian Gillis	Committee Member
Franck Margrave	Committee Member
Paul Poncelet	Committee Member
Richard Bodin	Appointed Member
Sophie Cavé-Lopez	Appointed Member
Clement Lau	Appointed Member

Arranged by: *Morgan Bonici*

Reviewed and Approved by:
Stuart Burton, Colin Childes