

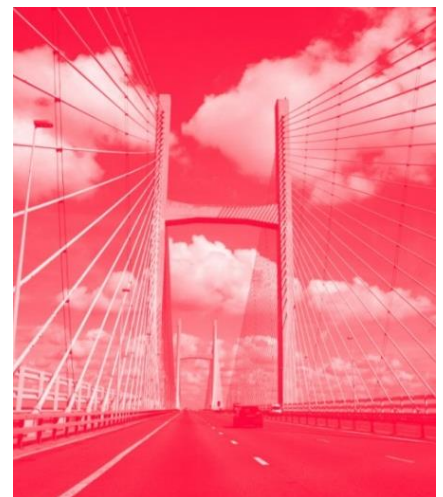
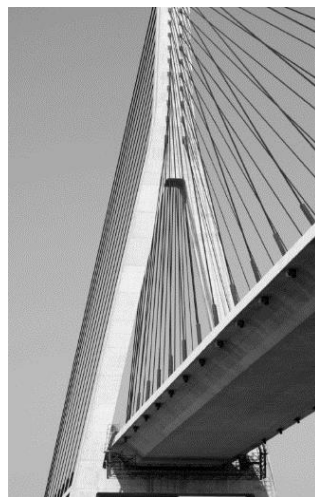


This project has received funding from the European Union's Horizon 2020 research and innovation programme under the Marie Skłodowska-Curie grant agreement No 676139.



Innovation and **N**etworking for **F**atigue and **R**eliability **A**nalysis of **S**tructures – **T**raining for **A**ssessment of **R**isk

NEWSLETTER #03 - August 2018 -





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WELCOME TO THE INFRASTAR NEWSLETTER #03

INFRASTAR is a **H2020 Marie Skłodowska Curie Actions - Innovative Training Network** project that aims to develop knowledge, expertise and skills for optimal and reliable management of structures in **concrete: bridges** and **wind turbines** in relation to **fatigue**.

INFRASTAR addresses three major challenges: 1) advanced modelling of concrete fatigue behaviour; 2) new non-destructive testing (NDT) methods for early aged damage detection; and 3) probabilistic approach of structure reliability under fatigue.

The network partners provide 12 Early Stage Researchers (ESRs) with a system-wide understanding of structure management on bridges and wind energy technology. This outstanding research training offers ranges from knowledge in materials to design loads, design of structures, monitoring of existing structures, development of sensors and innovative calculation methods for structural analysis, optimal and reliable management of structures.

In this issue:

- **INFRASTAR team**
Promotions, new members, departures.
- **Past events**
Training week #02, implementation day #01, training week #03, mid-term review meeting.
- **Communication and dissemination**
Outreach activities, list of publications.
- **What's on the INFRASTAR agenda?**

TEASER OF THE INFRASTAR NEWSLETTER #03

Assoc. Prof. Sebastian Thöns (DTU) gave a talk during the third training week entitled “**How should we work together?**” about recommendations for best practices and ethical standards in the conduct and reporting of research and other materials published in journals. The talk was based on two documents:

- 1) "Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals" (the Vancouver Convention) by the International Committee of Medical Journal Editors (ICMJE);
- 2) The European charter for researchers by the European Commission.

Sebastian finished by a quote by Henry Ford. **Discover it at the end of the newsletter...**

CONTACT

Project coordinator: French institute of science and technology for transport, development and networks

Scientific coordinator: Dr Odile Abraham

Project manager: Dr Hakim Ferria

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INFRASTAR TEAM

Promotions, new members, departures

We are pleased to announce that:

- Dr Franziska Schmidt, local academic supervisor of Mariia Nesterova (ESR6) has got her habilitation thesis.
- Dr Ernst Niederleithinger, Work Package 1 leader and local academic supervisor of Xin Wang (ESR1), has got his habilitation thesis and his venia legend was accepted. He also got appointed head of BAM's division responsible for NDT in civil engineering.
- Dr Thierry Yalamas has been promoted Chief Executive Officer at PHIMECA.
- Dr Piotr Kliklowicz, local industrial supervisor of Joyraj Chrakraborty (ESR3), got his PhD degree.
- Dr Marc Thiele from BAM has joined the End User Advisory Board.
- Dr Katerina Konakli from COWI has joined the project as the industrial co-supervisor of Mariia Nesterova (ESR6).
- Christian Clergue has joined the project as the new representative of the partner organisation EIFFAGE and the new industrial co-supervisor of Bartek Sawick (ESR5).

On the other hand, Henrik Niedermayer & Henrik Stensgaard Toft from COWI and Ziad Hajar from EIFFAGE left their respective company for other professional horizons and therefore, they are no longer involved in the project. In addition, Prof. Marios Chrissanthopoulos, member of the End User Advisory Board, has had to resign from his post as an expert in the project.

All INFRASTAR members take the opportunity to warmly thank them one more time for their participation and involvement, and wish them all the best for the future.



INFRASTAR team at the mid-term review meeting at Aalborg University in June 2018.



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PAST EVENTS

Training week #02

The second training week (TW#02) was held at EPFL in Lausanne, Switzerland, from the 20th until the 24th of November 2017. The three scientific Work Packages (WP) were covered as well as non-scientific courses. The training comprised:

- 13 hours dedicated to scientific lectures.
- 1 hour dedicated to the visit of the “Martinet” UHPFRC footbridge.
- 3 hours dedicated to complementary skills.
- 6 hours of teamwork.
- In addition, the students presented their research work.

More information on INFRASTAR website [here](#).



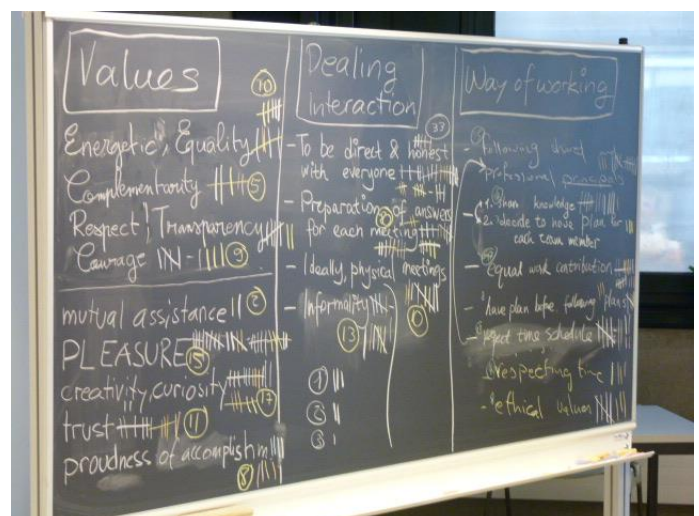
Prof. Eugen Brühwiler welcomes and introduces the TW#02.



Visit of the “Martinet” UHPFRC footbridge.



INFRASTAR team at EPFL.



Outcomes of the “teamwork” lecture.



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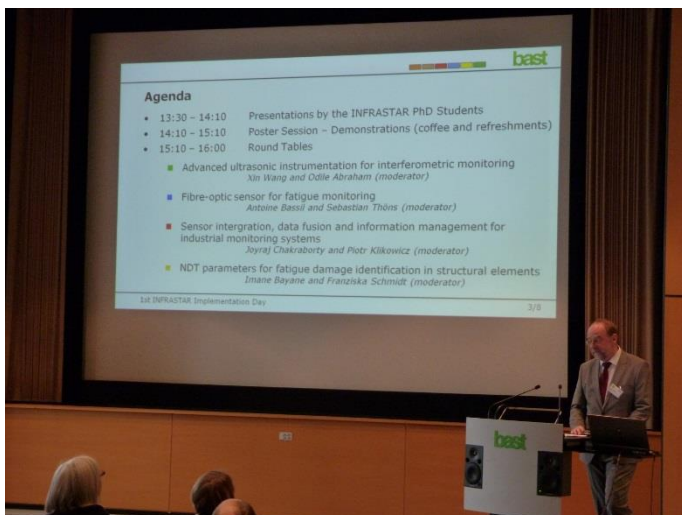
PAST EVENTS

Implementation day #01

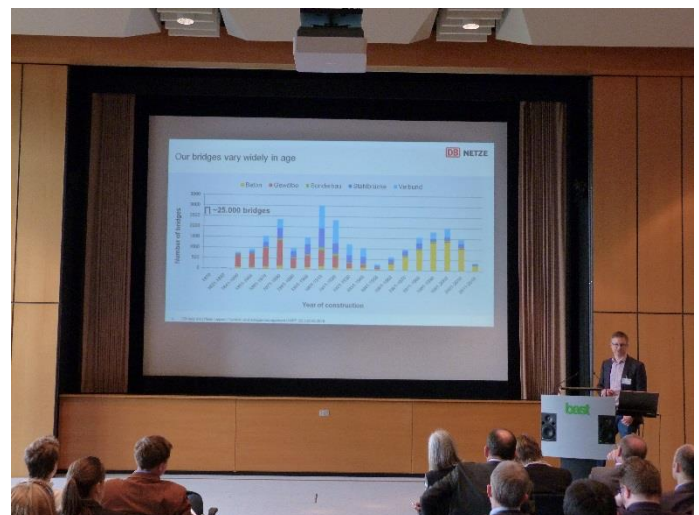
The purpose of the implementation days is to invite small and large companies, administrations, local authorities, academic experts in the fields of INFRASTAR in order to get their feedback on the progresses and to boost the networking opportunities. In other words, it offers to meet, exchange ideas and gain insights from each other.

The first implementation day (ImpDay#01) was organised jointly with BAST, the German Federal Highway Research Institute, in Bergisch Gladbach (Germany), on Tuesday 20th March 2018. The day after was the national symposium organised by BAST, and dedicated this year to smart structures.

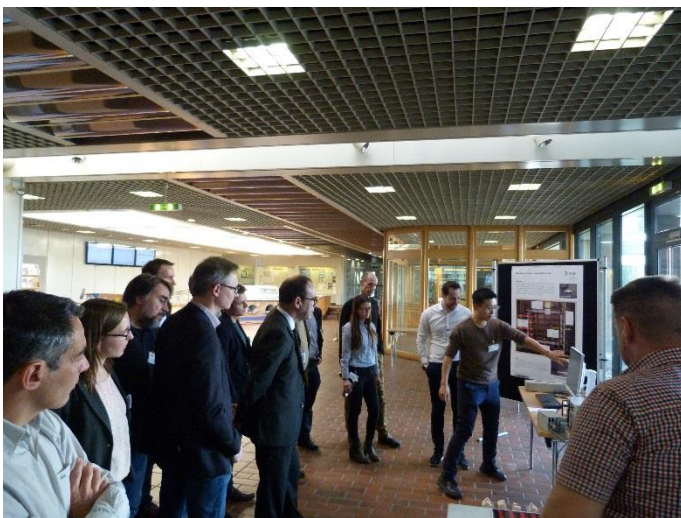
More information on INFRASTAR website [here](#).



Dr Peter Haardt (BAST) welcomes and introduces the ImpDay#01.



Keynote by Dr.-Ing. Peter Lippert (Deutsche Bahn).



Demonstration by the BAM team.



Round table #04 on NDT parameters for fatigue damage identification in structural elements.



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PAST EVENTS

Training week #03

The third training week was held at Aalborg University (AAU) in Aalborg, Denmark, from the 4th until the 8th of June 2018. The training comprised scientific and non-scientific courses:

- 12 ½ hours dedicated to scientific lectures.
- 2 hours dedicated to the technical visit of the Østerild wind turbine test field.
- 5 ½ hours dedicated to complementary skills.
- In addition, the students had to prepare their curriculum vitae and cover letter as well as a presentation about their research work.

More information on INFRASTAR website [here](#).



Lecture on entrepreneurship by Ivan Butler (AAU).



Lecture by Dr Cécile Mattrand (Sigma).



Lecture by Dr Franziska Bänsch (BAM).



Visit of the Østerild wind turbine test field.



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PAST EVENTS

Mid-Term Review meeting

The Mid-Term Review (MTR) meeting is "a contractual obligation and a fruitful dialogue". The objectives of the meeting are: to meet with the project team, to update on the project progress, to discuss any questions, concerns, difficulties, to find solutions.

It is not just a scientific evaluation, but also a unique opportunity to exchange views: a valuable source of feedback to both the consortium and the Research Executive Agency (REA).

The INFRASTAR MTR meeting has been organised during the TW#03 on Wednesday 6 June with the project officer Dr Szymon Sroda (REA) and the external scientific reviewer Assoc. Prof. Elsa Caetano from Porto University (Portugal).

More information on INFRASTAR website [here](#).



Introduction of the MTR meeting.



Presentation by Dr Odile Abraham, the scientific coordinator.



Individual fellow's report (here by Antoine Bassil, ESR2).



INFRASTAR team.



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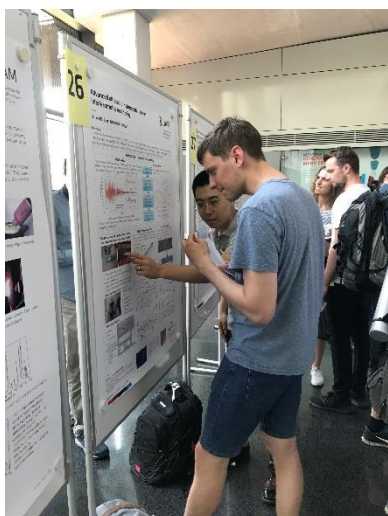


COMMUNICATION

Outreach activities

"Outreach activities" entail research-related communications initiatives directed to the general public, rather than the research community. The goal is to create awareness among the general public about the research work performed in the Marie Skłodowska Curie Actions projects and its implications for citizens.

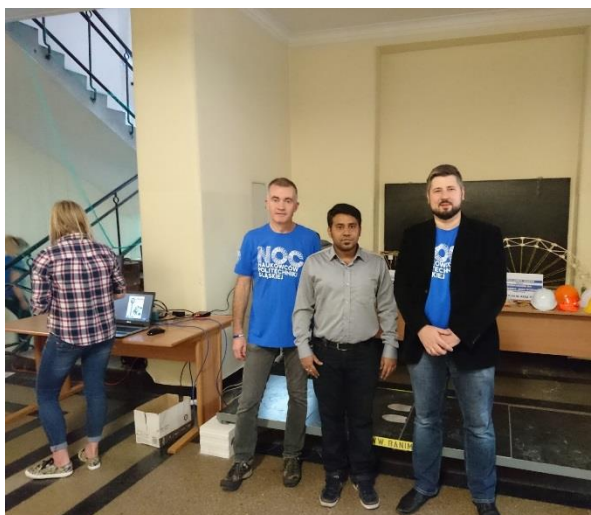
More information on INFRASTAR website [here](#).



Xin Wang (ESR1) participated in the 2018 BAM PhD day in Berlin (Germany).



Antoine Bassil (ESR2) participated in the "Three Minute Thesis" contest in Nantes (France).



Joyraj Chakraborty (ESR3) participated in the scientific night at the Silesian University of Technology (Gliwice, Poland) with Prof. Marek Salamak and Dr Piotr Klikowicz.



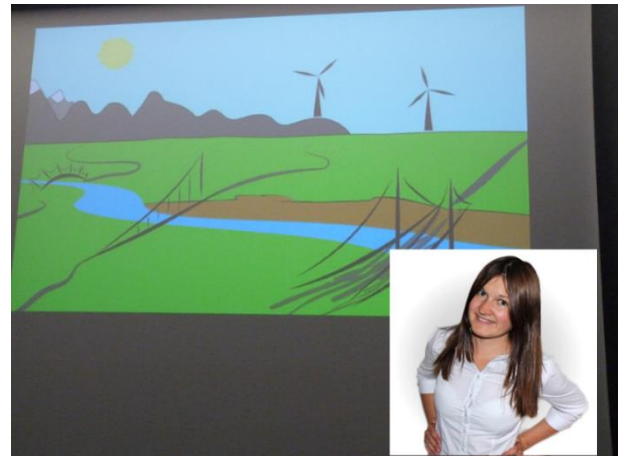
Imane Bayane (ESR4), Gianluca Zorzi (ESR7) and Lijia Long (ESR12) participated in the Night Museum in Berlin (Germany).



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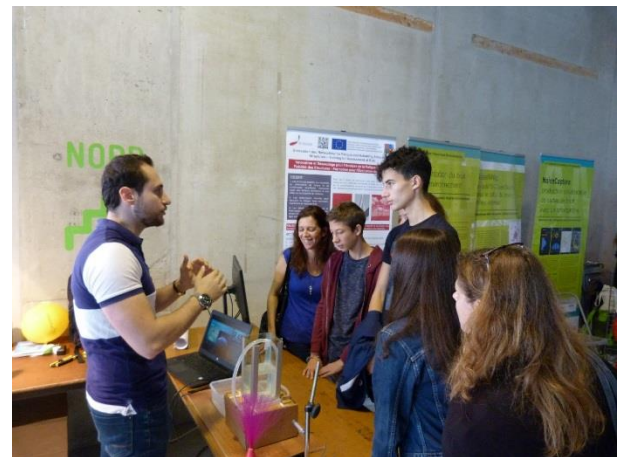
Bartek Sawicki (ESR5) participated in the “Pitch your impact” in Lausanne (Switzerland).



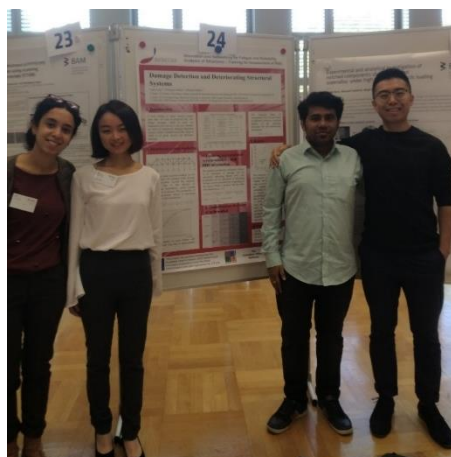
Mariia Nesterova (ESR6) edited a cartoon.



Amol Mankar (ESR9) visited schools in India.



Antoine Bassil (ESR2) participated in the “Fête de la science” in Nantes (France).



Imane Bayane (ESR4), Lijia Long (ESR12), Joyraj Chakraborty (ESR03) and Xin Wang (ESR01) participated in the 2017 BAM PhD day in Berlin (Germany).



All ESRs maintain an individual blog.



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LIST OF PUBLICATIONS

Conference papers

- Bassil A., Chapeleau X., Leduc D., Abraham O.
Quantification of cracks in reinforced concrete structures using distributed fibre optic sensors
EWSHM 2018, The 9th European Workshop on Structural Health Monitoring Series, Manchester, UK, 10-13 July 2018
- Long L., Thöns S., Döhler M.
The effects of SHM system parameters on the value of damage detection information
EWSHM 2018, The 9th European Workshop on Structural Health Monitoring Series, Manchester, UK, 10-13 July 2018
- Mankar A., Rastayesh S., Sørensen J.D.
Sensitivity and identifiability study for uncertainty analysis of material model for concrete fatigue
IRSEC 2018, 5th International Reliability and Safety Engineering Conference, Shiraz University, Iran, 9-10 May 2018
- Nesterova M., Schmidt F., Brühwiler E., Soize C.
Generalized Pareto distribution for reliability of bridges exposed to fatigue
IABMAS 2018, 9th International Conference on Bridge Maintenance, Safety and Management, Melbourne, Australia, 9-13 July 2018
- Rastayesh S., Mankar A., Sørensen J.D.
Comparative investigation of uncertainty analysis with different methodologies on fatigue data of rebars
IRSEC 2018, 5th International Reliability and Safety Engineering Conference, Shiraz University, Iran, 9-10 May 2018
- Velarde J., Kramhøft C., Sørensen J.D.
Uncertainty modeling and fatigue reliability assessment of concrete gravity based foundation for offshore wind turbines
ISOPE 2018, The 28th International Society of Offshore and Polar Engineers Conference, Sapporo, Japan, 10-15 June 2018
- Wang X., Niederleithinger E.
Coda wave interferometry used to detect loads and cracks in a concrete structure under field conditions
EWSHM 2018, The 9th European Workshop on Structural Health Monitoring Series, Manchester, UK, 10-13 July 2018
- Zorzi G., Richter T., Kirsch F., Augustesen A.H., Østergaard M.U., Sørensen S.P.H.
Explicit method to account for cyclic degradation of offshore wind turbine foundations using cyclic interaction diagrams
ISOPE 2018, The 28th International Society of Offshore and Polar Engineers Conference, Sapporo, Japan, 10-15 June 2018

More information on INFRASTAR website [here](#).



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WHAT'S ON THE INFRASTAR AGENDA?

Implementation day #02

The second implementation day is scheduled for Friday 12th October 2018 at EIFFAGE in Velizy Villacoublay close to Paris (France).

EIFFAGE is part of INFRASTAR project as a partner organisation. EIFFAGE is a leading figure in the European concessions and public works sector, operating through four divisions: construction, infrastructures, energy systems, and concessions.

The preliminary programme includes:

- A keynote: "UHPFRC for strengthening or retrofitting structures. Experience and prospects" by Dr François Toutlemonde (IFSTTAR).
- Presentations by the INFRASTAR ESRs of Work Package 2: Structural and action models.
- "Three Minute Thesis" session.
- Posters and round tables.

Download the flyer [here](#).

The event is free, however, number of places is limited and registration is strictly necessary.

Please register [here](#) by September 7, 2018.

More information on INFRASTAR website [here](#).

Spring school

The spring school is scheduled from the 8th until the 12th of April 2019 at IFSTTAR Nantes (France). More information available soon. Stay tuned...

Implementation day #03

The third implementation day is scheduled for June 2019 at COWI in Copenhagen (Denmark). More information available soon. Stay tuned...

TEASER OF THE INFRASTAR NEWSLETTER #03

"Coming together is a beginning; keeping together is progress; working together is success."
(Henry Ford)

MORE INFORMATION ON INFRASTAR WEBSITE AND SOCIAL MEDIA, STAY TUNED...





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PHOTO GALLERY



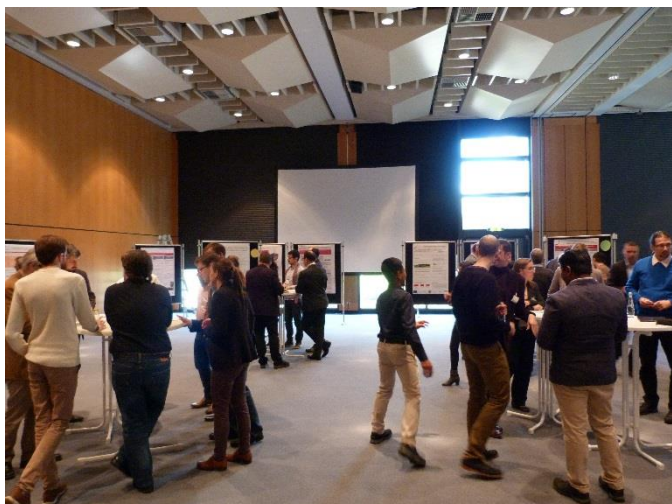
INFRASTAR team on the Martinet bridge in Lausanne, Switzerland (TW#02).



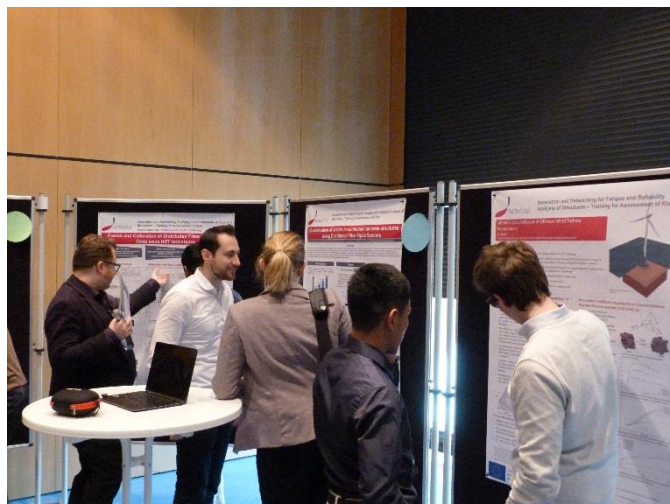
INFRASTAR team at the TAO lounge bar in Lausanne, Switzerland (TW#02).



Teamwork at EPFL in Lausanne, Switzerland (TW#02).



Round tables at BAST in Bergisch Gladbach, Germany (ImpDay#01).



Poster session at BAST in Bergisch Gladbach, Germany (ImpDay#01).



INFRASTAR team at Vesterbro restaurant in Aalborg, Denmark (TW#03).



Visit of the Østerild wind turbine test field (TW#03).