



MoSaiQC | ITN

Modular Systems for advanced integrated Quantum Clocks

D4.1 Website

Project acronym: MoSaiQC

Project full title: Modular Systems for Advanced Integrated Quantum Clocks

Grant agreement no.: 860579

| | |
|-----------------------------|-------------------------------|
| Due Date: | Month 6 |
| Delivery: | Month 6 |
| Lead Partner: | University of Amsterdam (UvA) |
| Editor: | Judith Kreukels, UvA |
| Dissemination Level: | PU |
| Status: | Final |
| Approved: | Yes |
| Version: | V1.0 |



This project has received funding from the *European Union's Horizon 2020 research and innovation programme* under the Marie Skłodowska-Curie grant agreement No 860579 (MoSaiQC).

This deliverable reflects only the author's view and the European Commission is not responsible for any use that may be made of the information it contains.

DOCUMENT INFO

| Date and version number | Author | Comments |
|--------------------------------|-----------------|-----------------|
| v0.1, 17.08.2020 | Judith Kreukels | First draft |
| V0.2, 18.08.2020 | Florian Schreck | Second draft |

Contents

Executive summary3

1 Introduction4

2. Structure of the website4

3. Current state4

4. Maintenance7

5. Future adjustments7

6. Conclusions7

Executive summary

This document describes the MoSaiQC project's website, which is available at <https://www.mosaiqc.eu/>. The website has been designed and written to advertise the MoSaiQC project and to communicate scientific results to a wider audience. At this point the website presents the involved partners, open and filled PhD positions, news updates and contact information of the project partners. It is planned that in the future visitors can download public dissemination materials and open access publications with the goal to raise awareness of the project.

1 Introduction

Online activities will be the primary channels to engage with the different target audiences in the MoSaiQC project. The website is currently used to present the goal of the project and provides updated information on vacancies. In the future it will contain all relevant MoSaiQC information (project videos, popular press articles, lay summaries and brochures, career opportunities) and advertise the project's outreach activities. In particular, the ESRs will play an active role in keeping the "news" section of the website lively. This website is a platform for the ESRs to make their contributions to the projects, their results and, if desired by the ESRs, their academic lives known to a larger audience. A range of social media platforms will be used to further distribute these news and to engage with different audiences about research, see Milestone 4.1.

2. Structure of the website

The current website is structured as follows:

About: includes the goal of MoSaiQC and background information

ESR (PhD) projects: lists the open and filled vacancies (regularly updated)

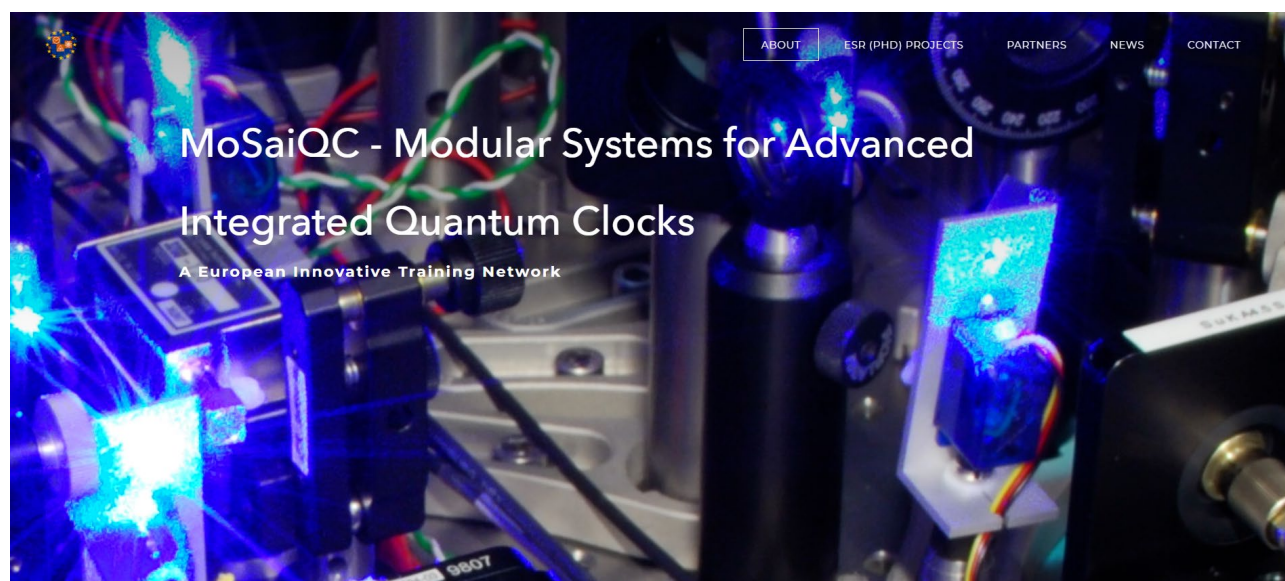
Partners: background information on the project partners and the team members involved

News: announcements are placed here

Contact: contact information on how to get into contact with the MoSaiQC consortium

3. Current state

The website is online since August 2019. The following screenshots provide an impression of the website.



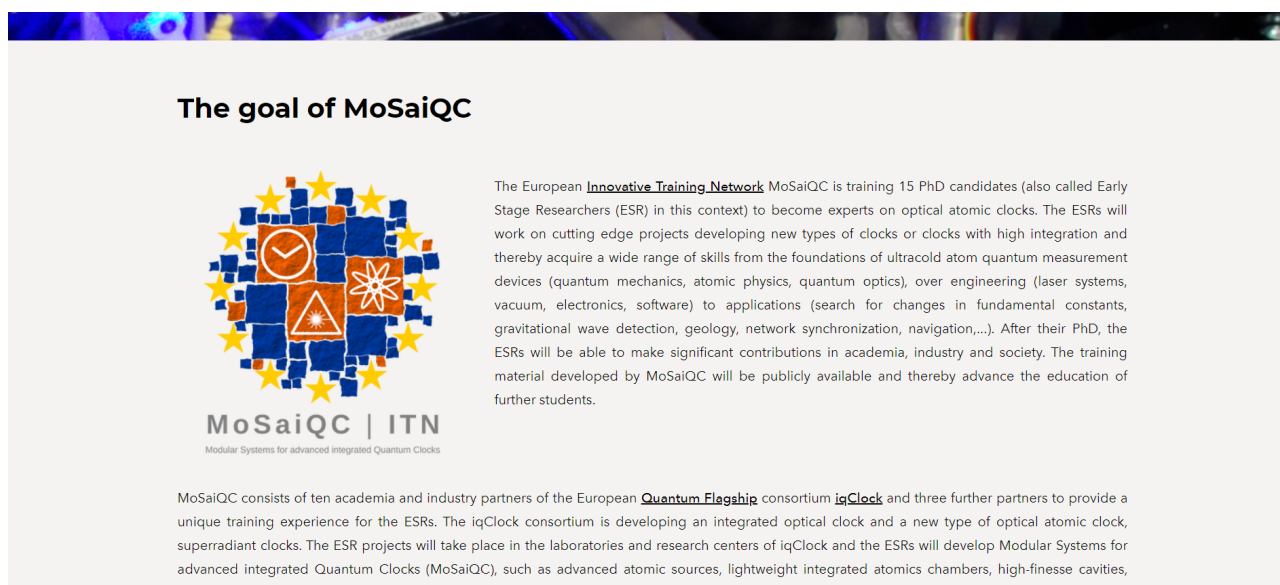


Figure 3.1 The introductory page of the website

Available projects

[ESR1](#) - Compact atomic sources and beams for steady-state superradiant lasers - [University of Amsterdam, NL](#)

[ESR2](#) - Precision laser stabilization and locking - [University of Amsterdam, NL](#)

[ESR3](#) - *Position filled* - High finesse cavities for strong atom-light interaction - [University of Amsterdam, NL](#)

[ESR4](#) - *Position filled* - Advanced lightweight and compact atomics chamber with integrated computer control module - [University of Birmingham, UK](#)

[ESR5](#) - *Position filled* - System modelling towards ruggedized, portable quantum clocks - [University of Birmingham, UK](#)

[ESR6](#) - *Position filled* - High spectral purity and very low frequency noise - [Toptica, DE](#)

[ESR7](#) - Autonomous frequency stabilisations in a superradiant clock - [Nicolaus Copernicus University, PL](#)

[ESR8](#) - Moving from a superradiant laser to a frequency standard - [Nicolaus Copernicus University, PL](#)

[ESR9](#) - *Position filled* - Ultra stable clock laser system for studies of superradiant clock on a kHz wide transition - [University of Copenhagen, DK](#)

[ESR10](#) - *Position filled* - Automated superradiant clock on a kHz wide transition - [University of Copenhagen, DK](#)

[ESR11](#) - *Position filled* - Quantitative modelling of superradiant laser - [TU Wien, AT](#)

[ESR12](#) - *Position filled* - Optical forces and dipole-dipole interaction in a superradiant optical clock - [University of Innsbruck, AT](#)

[ESR13](#) - Implementation of optical clock on telecom network - [British Telecom, UK](#)

[ESR14](#) - Integrated physics package - [Teledyne e2v, UK](#)

[ESR15](#) - *Position filled* - Single frequency fiber laser for novel laser cooling - [NKT Photonics, DK](#)

Figure 3.2 List of vacancies with links to longer descriptions of position and partner



Positions in Amsterdam

The Amsterdam team has two open [ESR \(PhD\) projects](#).

ESR1 - Compact atomic sources and beams for steady-state superradiant lasers

Steady-state atomic beam sources are crucial to realizing superradiant clocks and beneficial for quantum sensing with ultracold atoms in general. We have developed a continuous beam of ultracold atoms of unprecedented brightness and phase-space density and can create steady-state samples close to quantum degeneracy (the phase-space density is 1). This continuous source of atoms is one of the foundations of our attempts to develop continuous superradiant clocks within [iqClock](#). The source we have developed so far is rather large and needs to be shrunk in size and complexity to enable more researchers to use them and to bring them out of the lab into the field. We are developing

Figure 3.3 Example of an open position description

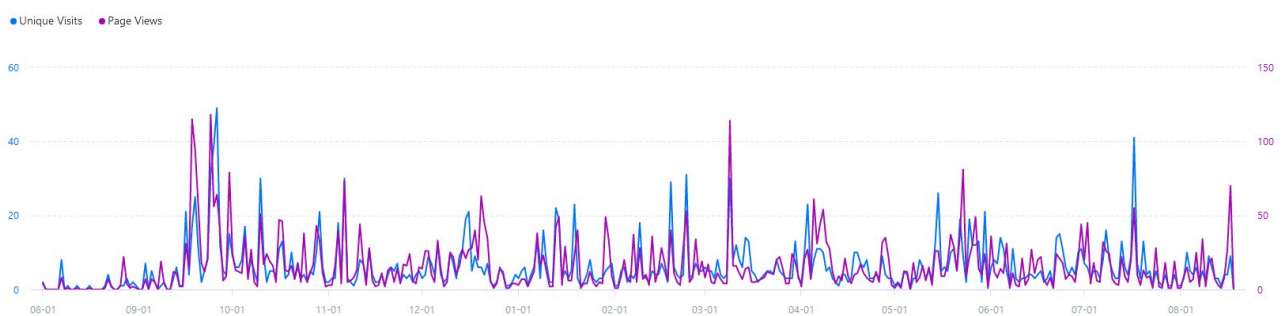


Figure 3.4 Statistics of visitors from Aug 2019 to Aug 2020.

During the last year the website has been visited by 2331 unique visitors, who did read 5969 pages of the site.

4. Maintenance

The website will be regularly updated by the Project Coordinator. In the future an ESR will take over the maintenance.

5. Future adjustments

It is planned to present the ESRs who have already started on the website, if they agree with this presentation. We will create a sub-page to rapidly communicate new data, outcomes, results, publications, etc. and to advertise upcoming events. In the process of reaching Milestone 4.1, we will develop an outreach strategy to address different target audiences (bachelor and master students, non-MoSaiQC PhD students and postdoc applicants, laypeople interested in cutting edge physics, high-tech company employees (engineers, managers) interested in the topics of MoSaiQC and quantum science in general,...) and to present results to specific groups of interest in the future. This strategy will include the news and results section of the MoSaiQC website and social media channels (e.g. postings on Twitter).

6. Conclusions

This document has shown the set up and future adjustments to the MoSaiQC website. The website is a continuous work in progress and will constantly be updated with news, upcoming events and MoSaiQC achievements.