

Operations Scientist

Job Location

Cheshire, UK (Head Office)

Area / Department

Telescope Operations

Contract Type

Permanent

Salary

£54,000 - £68,000 Depending on the level of experience, plus excellent benefits

Closing Date

13/09/2024

Ref No

10313

At the SKAO we are coordinating a global effort to deliver one of the largest science facilities on the planet. The SKAO telescopes will be next-generation instruments that will help to answer key questions in astrophysics, drive technological innovation and support human capital development.

More than a dozen partner countries and over a thousand scientists and engineers around the world are already on board, making the SKA project an international collaboration like no other, and one of the most ambitious science and engineering endeavours of the 21st century.

Headquartered in the UK, with telescope sites in Australia and South Africa, the SKAO will be one observatory operating two telescopes, an endeavour spanning three continents. Multinational by design, in early 2021 the SKAO became an intergovernmental organisation, one of only a select handful of science infrastructures to do so worldwide.

Our Global HQ is located near the buzzing city of Manchester at the historic Jodrell Bank Observatory, a UNESCO World Heritage site located in the Cheshire countryside. It is home to a rapidly expanding international team of more than a hundred, working in a highly collaborative and inclusive way, in coordination with SKAO teams in Australia and South Africa as part of a global astronomy and engineering community.

Being part of Team SKA means contributing to something extraordinary: a uniquely exciting project to advance human knowledge that will last for decades. In return, we offer a diverse multicultural working environment, 30 days annual leave plus public holidays, a generous pension scheme, visa and support with relocation (if applicable), regular social events, a family-friendly environment and much more. Come and join us!

An ideal role for a radio astronomer with Observatory experience who is keen to contribute to the operational planning and commissioning of the SKAO.

The Role

The SKAO Operations group is seeking to employ a talented and motivated Operations Scientist to join our team based in the SKAO Global Headquarters located at Jodrell Bank in the UK. With the SKA now in construction, planning for the operations of the SKA has entered an exciting phase. In order to support our planning, we are looking for someone with broad operational and scientific experience within the full range of activities required to run a successful radio observatory. This includes knowledge of the telescope systems, data processing and analysis as well as experience serving a diverse and distributed user community.

The successful candidate will draw on their experience, expertise within their established networks and the broader astronomical community to inform the detailed SKAO operational plan and policies. They will also be required to support the planning and execution of scientific commissioning and verification for the SKA Observatory.

The successful candidate will possess strong organisational, communication, and collaborative skill to excel in this role.

The appointees will be encouraged to carry out research up to 25% of employed hours. Appropriate support, including conference travel, will be provided.

SKAO is committed to providing an inclusive and flexible working environment, meeting the requests of our Colleagues whilst also fulfilling the needs and objectives of the Observatory. These roles may be offered on a full-time, part-time or job share basis. Please raise your preference in your application.

There may be occasions where this role requires the post holder to work across different time zones and, in line with SKAO policy, flexible working hours will be supported in agreement with the line manager.

Informal enquiries may be made to Shari Breen, Head of Science Operations (shari.breen@skao.int).

Key Responsibilities, Accountabilities and Duties

Under the direction of the SKAO Head of Science Operations, the post holder will:

- Support the development and continual refinement of the science operational model for the SKA telescopes;
- Ensure consistency between the SKA System Level requirements with those needed for the successful future operation of the SKA telescopes;
- Contribute to commissioning and science verification, including the development of plans, requirements for early array releases and test procedures;
- Support the development of software needed to operate the SKA telescopes or necessary for the SKA user community;
- Effectively collaborate with SKA staff across the three sites (i.e. some travel to the SKAO telescope sites in Australia and/or South Africa will be necessary);
- Optionally undertake a programme of personal research up to 25% of employed hours;
- Undertake other duties as directed by the Head of Science Operations.

Mandatory Knowledge, Skills and Experience

The post holder will have:

- A doctorate in astronomy, physics, engineering, or another closely related field, or equivalent experience.
- Expertise in astronomy techniques including in the acquisition, reduction and analysis of astronomical data.
- An appreciation and understanding of the radio astronomy science cases motivating the SKA Observatory.
- Demonstrated aptitude to undertake scientific facility operation, provide user support and translate the needs of the user to requirements and/or operational policies.
- Demonstrated aptitude to work collaboratively across disciplines, with engineers and scientists from a variety of cultures, contributing to an inclusive team environment.
- Effective written and oral communication skills in English.
- An awareness of, and commitment to, equitable practices, including accessibility, to facilitate broad access to the observatory.

Desirable Knowledge, Skills and Experience

- Experience in commissioning astronomy instrumentation.

- Experience understanding and articulating the needs of a user (e.g. radio astronomer) to inform the development of requirements (e.g. through a series of use cases) and/or operational policies.
- Expertise across a breadth of radio astronomy techniques, including one or more of, e.g. Very Long Baseline Interferometry, beamforming techniques and/or time domain science (pulsars, fast transients).
- Experience of working in a multicultural environment across international boundaries and time zones.

Equality Diversity and Inclusion Statement

SKA Observatory recognises that our diversity is a strength. We aim *to create a welcoming and inclusive environment where everyone feels they belong, and diverse perspectives and ideas thrive*. As such, Equality, Diversity, and Inclusion are at the core of SKA Observatory's agenda.

Our aim is to recruit and retain the most talented individuals, regardless of gender, race, disability, age, sexual orientation, marital status, religion, nationality or background.

Women have traditionally been under-represented in the fields of science and engineering; SKA Observatory welcomes and encourages female applicants.

Where applicants with a disability need facilities or adjustments to enable them to participate in the recruitment process, these will be provided.

SKA Observatory welcome all candidates, especially those from member countries.

The "How to Apply" information contained within the SKA Observatory recruitment portal provides more detail regarding our application and selection approach.

SKA-Mid Operations Scientist

Job Location

Cheshire, UK (Head Office)

Area / Department

Telescope Operations

Contract Type

Permanent

Salary

£54,000 - £68,000 Depending on the level of experience, plus excellent benefits

Closing Date

13/09/2024

Ref No

10314

At the SKAO we are coordinating a global effort to deliver one of the largest science facilities on the planet. The SKAO telescopes will be next-generation instruments that will help to answer key questions in astrophysics, drive technological innovation and support human capital development.

More than a dozen partner countries and over a thousand scientists and engineers around the world are already on board, making the SKA project an international collaboration like no other, and one of the most ambitious science and engineering endeavours of the 21st century.

Headquartered in the UK, with telescope sites in Australia and South Africa, the SKAO will be one observatory operating two telescopes, an endeavour spanning three continents. Multinational by design, in early 2021 the SKAO became an intergovernmental organisation, one of only a select handful of science infrastructures to do so worldwide.

Our Global HQ is located near the buzzing city of Manchester at the historic Jodrell Bank Observatory, a UNESCO World Heritage site located in the Cheshire countryside. It is home to a rapidly expanding international team of more than a hundred, working in a highly collaborative and inclusive way, in coordination with SKAO teams in Australia and South Africa as part of a global astronomy and engineering community.

Being part of Team SKA means contributing to something extraordinary: a uniquely exciting project to advance human knowledge that will last for decades. In return, we offer a diverse multicultural working environment, 30 days annual leave plus public holidays, a generous pension scheme, visa and support with relocation (if applicable), regular social events, a family-friendly environment and much more. Come and join us!

An ideal role for a radio astronomer with Observatory experience who is keen to contribute to the operational planning and commissioning of the SKAO.

The Role

The SKAO Operations group is seeking to employ a talented and motivated SKA-Mid Operations Scientist to join our team **based in the SKAO Global Headquarters located at Jodrell Bank in the UK**. While this role has a SKA-Mid focus and the successful candidate is expected to primarily work with the Mid telescope, they will join a very collaborative broader Science Operations team that is distributed across the three host countries.

With the SKA now in construction, planning for the operations of the SKA has entered an exciting phase. In order to support our planning, we are looking for someone with broad operational and scientific experience within the full range of activities required to run a successful radio observatory. This includes knowledge of the telescope systems, data processing and analysis as well as experience serving a diverse and distributed user community.

The successful candidate will draw on their experience, expertise within their established networks and the broader astronomical community to inform the detailed SKAO operational plan and policies. They will also be required to support the planning and execution of scientific commissioning and verification for the SKA Observatory.

The successful candidate will possess strong organisational, communication, and collaborative skill to excel in this role.

The appointees will be encouraged to carry out research up to 25% of employed hours. Appropriate support, including conference travel, will be provided.

SKAO is committed to providing an inclusive and flexible working environment, meeting the requests of our Colleagues whilst also fulfilling the needs and objectives of the Observatory. These roles may be offered on a full-time, part-time or job share basis. Please raise your preference in your application.

There may be occasions where this role requires the post holder to work across different time zones and, in line with SKAO policy, flexible working hours will be supported in agreement with the line manager.

Informal enquiries may be made to Shari Breen, Head of Science Operations (shari.breen@skao.int).

Key Responsibilities, Accountabilities and Duties

Under the direction of the SKAO Head of Science Operations, the post holder will:

- Support the development and continual refinement of the science operational model for the SKA telescopes, particularly SKA-Mid;

- Ensure consistency between the SKA System Level requirements with those needed for the successful future operation of SKA-Mid;
- Contribute to commissioning and science verification of SKA-Mid, including the development of plans, requirements for early array releases and test procedures;
- Support the development of software needed to operate the SKA telescopes or necessary for the SKA user community;
- Effectively collaborate with SKA staff across the three sites (i.e. some travel to the SKAO telescope sites in Australia and/or South Africa will be necessary);
- Optionally undertake a programme of personal research up to 25% of employed hours;
- Undertake other duties as directed by the Head of Science Operations.

Mandatory Knowledge, Skills and Experience

The post holder will have:

- A doctorate in astronomy, physics, engineering, or another closely related field, or equivalent experience.
- Expertise in astronomy techniques including in the acquisition, reduction and analysis of astronomical data, particularly mid-frequency radio data.
- An appreciation and understanding of the radio astronomy science cases motivating the SKA Observatory.
- Demonstrated aptitude to undertake scientific facility operation, provide user support and translate the needs of the user to requirements and/or operational policies.
- Demonstrated aptitude to work collaboratively across disciplines, with engineers and scientists from a variety of cultures, contributing to an inclusive team environment.
- Effective written and oral communication skills in English.
- An awareness of, and commitment to, equitable practices, including accessibility, to facilitate broad access to the Observatory.

Desirable Knowledge, Skills and Experience

- Experience in commissioning astronomy instrumentation.
- Experience understanding and articulating the needs of a user (e.g. radio astronomer) to inform the development of requirements (e.g. through a series of use cases) and/or operational policies.
- Expertise across a breadth of radio astronomy techniques, including one or more of, e.g. Very Long Baseline Interferometry, beamforming techniques and/or time domain science (pulsars, fast transients).
- Experience of working in a multicultural environment across international boundaries and time zones.

Equality Diversity and Inclusion Statement

SKA Observatory recognises that our diversity is a strength. We aim *to create a welcoming and inclusive environment where everyone feels they belong, and diverse perspectives and ideas thrive*. As such, Equality, Diversity, and Inclusion are at the core of SKA Observatory's agenda.

Our aim is to recruit and retain the most talented individuals, regardless of gender, race, disability, age, sexual orientation, marital status, religion, nationality or background.

Women have traditionally been under-represented in the fields of science and engineering; SKA Observatory welcomes and encourages female applicants.

Where applicants with a disability need facilities or adjustments to enable them to participate in the recruitment process, these will be provided.

SKA Observatory welcome all candidates, especially those from member countries.

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SKA-Mid Junior Operations Scientist

Job Location

Cape Town, South Africa

Area / Department

Science

Contract Type

Fixed Term Contract

Salary

ZAR 650,000 - 750,000 Depending on the level of experience, plus excellent benefits

Closing Date

13/09/2024

Ref No

10317

At the SKAO we are coordinating a global effort to deliver one of the largest science facilities on the planet. The SKAO telescopes will be next-generation instruments that will help to answer key questions in astrophysics, drive technological innovation and support human capital development.

More than a dozen partner countries and over a thousand scientists and engineers around the world are already on board, making the SKA project an international collaboration like no other, and one of the most ambitious science and engineering endeavours of the 21st century.

Headquartered in the UK, with telescope sites in Australia and South Africa, the SKAO will be one observatory operating two telescopes, an endeavour spanning three continents. Multinational by design, in early 2021 the SKAO became an intergovernmental organisation, one of only a select handful of science infrastructures to do so worldwide.

Construction activities for the SKAO's telescopes in Australia and South Africa started in 2021, along with a ramping up of SKAO staff in both countries. It is expected that the transition from the Construction Phase to the Operations Phase will happen around 2028.

SKAO Operations in South Africa will be conducted in partnership with the South African Radio Astronomy Observatory (SARAO). SKAO Operations in Australia will be conducted in partnership with the Commonwealth Scientific and Industrial Research Organisation (CSIRO). The Observatory will also partner closely with a global network of SKA Regional Centres through which astronomers will access science data products and a suite of tools and resources to further analyse the SKA telescopes' data.

For more information on the SKA project visit <https://www.skao.int/>

The SKA Observatory offers a competitive salary and a generous pension and benefits package. As an employee of an intergovernmental organisation, an appointee who is not a national of the country in which the role is based may be subject to personal Privileges and Immunities.

This is an ideal role for a young radio astronomer, with strong technical abilities and interests, wishing to gain experience in observatory science operations.

The Role

The SKAO Science Operation team is seeking to employ up to two Junior Operations Scientists to join the SKA-Mid team based at **the Science Operations Centre in Cape Town, South Africa**. With the SKA now in construction, planning for the operations of the SKA has entered an exciting phase.

The Operations Scientists will interact with the broader astronomical community to inform the detailed SKAO operational plan and policies. They will also be required to support the planning and execution of scientific commissioning and verification for

the SKA Observatory. Good organisational, communication and collaborative skills are required for this role. In addition, under a joint agreement between the SKAO and SRAO, the SKA-Mid Science Operations team will work jointly with the SRAO MeerKAT operations team to support MeerKAT science operations and commissioning of the MeerKAT extension, until the MeerKAT telescope is integrated into the SKA. This provides an opportunity to gain additional experience in an active observatory environment.

The appointees will be encouraged to carry out research up to 25% of employed hours. Appropriate support, including conference travel, will be provided.

SKAO is committed to providing an inclusive and flexible working environment, meeting the requests of our Colleagues whilst also fulfilling the needs and objectives of the Observatory.

We encourage applications from under-represented groups such as women and individuals with disabilities, as well as open conversations during the recruitment process in relation to any specific requirements.

There may be occasions where this role requires the post holder to work across different time zones and, in line with SKAO policy, flexible working hours will be supported in agreement with the line manager.

This is a fixed term position with duration of three years, with the possibility to join the team on a permanent basis as an Operations Scientist at the end of this period.

Key Responsibilities, Accountabilities and Duties

Under the direction of the SKA-Mid Head of Science Operations, the post holder will:

- Support the development and continual refinement of the science operational model for the SKA telescopes.
- Ensure consistency between the SKA System Level requirements with those needed for the successful future operation of the SKA telescopes.
- Contribute to commissioning and science verification of MeerKAT Extension and SKA-Mid Telescope, including the development of plans, requirements for early array releases and test procedures.
- Support the development of software needed to operate the SKA Telescopes or necessary for the SKA user community.
- Effectively collaborate with SKAO staff across the three sites.

- Support MeerKAT science operations by serving as Astronomer on Duty on a roster basis, conducting feasibility reviews and providing user support as needed.
- Undertake other duties as directed by the SKA-Mid Head of Science Operations.

Mandatory Knowledge, Skills and Experience

- University PhD degree in Astronomy, Physics, Engineering or another closely related and relevant field, or equivalent experience.
- Expertise in radio astronomy techniques including in the acquisition, reduction and analysis of astronomical data, particularly mid-frequency radio data
- Effective oral and written communication skills in English.
- An awareness of, and commitment to, equitable practices, including accessibility, to facilitate broad access to the Observatory.

Desirable Knowledge, Skills and Experience

- Experience with the operation of astronomical observatories.
- Experience of working in a multicultural environment across international boundaries and time zones.
- Expertise across a breadth of radio astronomy techniques, including one or more of, e.g. Very Long Baseline Interferometry, beamforming techniques and/or time domain science (pulsars, fast transients).

Equality Diversity and Inclusion Statement

SKA Observatory recognises that our diversity is a strength. We aim *to create a welcoming and inclusive environment where everyone feels they belong, and diverse perspectives and ideas thrive*. As such, Equality, Diversity, and Inclusion are at the core of SKA Observatory's agenda.

Our aim is to recruit and retain the most talented individuals, regardless of gender, race, disability, age, sexual orientation, marital status, religion, nationality or background.

Women have traditionally been under-represented in the fields of science and engineering; SKA Observatory welcomes and encourages female applicants.

Where applicants with a disability need facilities or adjustments to enable them to participate in the recruitment process, these will be provided.

SKA Observatory welcome all candidates, especially those from member countries.

The “How to Apply” information contained within the SKA Observatory recruitment portal provides more detail regarding our application and selection approach.

SKA-Mid Operations Scientists

Job Location

Cape Town, South Africa

Area / Department

Science

Contract Type

Permanent

Salary

ZAR 750,000 - 900,000 Depending on level of experience, plus excellent benefits.

Closing Date

13/09/2024

Ref No

10318

At the SKAO we are coordinating a global effort to deliver one of the largest science facilities on the planet. The SKAO telescopes will be next-generation instruments that will help to answer key questions in astrophysics, drive technological innovation and support human capital development.

More than a dozen partner countries and over a thousand scientists and engineers around the world are already on board, making the SKA project an international collaboration like no other, and one of the most ambitious science and engineering endeavours of the 21st century.

Headquartered in the UK, with telescope sites in Australia and South Africa, the SKAO will be one observatory operating two telescopes, an endeavour spanning three continents. Multinational by design, in early 2021 the SKAO became an intergovernmental organisation, one of only a select handful of science infrastructures to do so worldwide.

Construction activities for the SKAO's telescopes in Australia and South Africa started in 2021, along with a ramping up of SKAO staff in both countries. It is expected that the transition from the Construction Phase to the Operations Phase will happen around 2028.

SKAO Operations in South Africa will be conducted in partnership with the South African Radio Astronomy Observatory (SARAO). SKAO Operations in Australia will be conducted in partnership with the Commonwealth Scientific and Industrial Research Organisation (CSIRO). The Observatory will also partner closely with a global network of SKA Regional Centres through which astronomers will access science data products and a suite of tools and resources to further analyse the SKA telescopes' data.

For more information on the SKA project visit <https://www.skao.int/>

The SKA Observatory offers a competitive salary and a generous pension and benefits package. As an employee of an intergovernmental organisation, an appointee who is not a national of the country in which the role is based may be subject to personal Privileges and Immunities.

An ideal role for two radio astronomers with Observatory experience who are keen to contribute to the operational planning and commissioning of the SKAO and become involved in the science operations of the SKA precursor, MeerKAT.

The Role

The SKAO Science Operations group is seeking to employ talented and motivated Operations Scientists to join the SKA-Mid team based at the Science Operations Centre in **Cape Town, South Africa**. With the SKA now in construction, planning for the operations of the SKA has entered an exciting phase. In order to support our planning, we are looking for individuals with broad operational and scientific experience within the full range of activities required to run a successful radio observatory. This includes knowledge of the telescope systems, data processing and analysis, as well as experience serving a diverse and distributed user community.

The Operations Scientists will draw on their experience, expertise within their established networks and the broader astronomical community to inform the detailed SKAO operational plan and policies. They will also be required to support the planning and execution of scientific commissioning and verification for the SKA Observatory. Good organisational, communication and collaborative skills are required for this role. In addition, under a joint agreement between the SKAO and SARAO, the SKA-Mid Science Operations team will work jointly with the SARAO MeerKAT operations team to support MeerKAT science operations and commissioning of the MeerKAT extension, until the MeerKAT telescope is integrated into the SKA. This provides an opportunity to gain additional experience in an active observatory environment.

The appointees will be encouraged to carry out research up to 25% of employed hours. Appropriate support, including conference travel, will be provided.

The roles are offered on a full time, permanent basis and the Operations Scientists will periodically need to work outside of normal office hours when fulfilling the Astronomer on Duty support role.

SKAO is committed to providing an inclusive and flexible working environment, meeting the requests of our Colleagues whilst also fulfilling the needs and objectives of the Observatory.

We encourage applications from under-represented groups such as women and individuals with disabilities, as well as open conversations during the recruitment process in relation to any specific requirements.

There may be occasions where this role requires the post holder to work across different time zones and, in line with SKAO policy, flexible working hours will be supported in agreement with the line manager.

Key Responsibilities, Accountabilities and Duties

Under the direction of the SKA-Mid Head of Science Operations, the post holder will:

- Support the development and continual refinement of the science operational model for the SKA telescopes.
- Ensure consistency between the SKA System Level requirements with those needed for the successful future operation of the SKA telescopes.
- Contribute to commissioning and science verification of MeerKAT Extension and SKA-Mid Telescope, including the development of plans, requirements for early array releases and test procedures.
- Support the development of software needed to operate the SKA Telescopes or necessary for the SKA user community.
- Effectively collaborate with SKAO staff across the three sites. Occasional travel to the SKAO telescope sites in Australia and/or South Africa might be required.
- Support MeerKAT science operations by serving as Astronomer on Duty on a roster basis, conducting feasibility reviews and providing user support as needed.
- Undertake other duties as directed by the SKA-Mid Head of Science Operations.

Mandatory Knowledge, Skills and Experience

- University PhD degree in Astronomy, Physics, Engineering or another closely related and relevant field, or equivalent experience.
- Expertise in radio astronomy techniques including in the acquisition, reduction and analysis of astronomical data.
- Experience with the operation of astronomical observatories.

- Experience working with a diverse and globally distributed telescope user community and providing appropriate user support.
- Effective oral and written communication skills in English.
- Flexibility and adaptability to change.
- An awareness of, and commitment to, equitable practices, including accessibility, to facilitate broad access to the Observatory.

Desirable Knowledge, Skills and Experience

- Experience commissioning radio astronomy instrumentation (or similar).
- Experience working in large collaborative projects.
- Experience understanding and articulating the needs of a user (e.g. radio astronomer) to inform the development of requirements (e.g. through a series of use cases) and/or operational policies.
- Ability to work effectively with engineers and scientists from a variety of cultures and influence people in widely differing parts of a complex organisation.
- Awareness of equitable practices, including accessibility, to facilitate the broadest possible access to the Observatory from the scientific user community. Expertise across a breadth of radio astronomy techniques, including one or more of, e.g. Very Long Baseline Interferometry, beamforming techniques and/or time domain science (pulsars, fast transients).

Equality Diversity and Inclusion Statement

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Our aim is to recruit and retain the most talented individuals, regardless of gender, race, disability, age, sexual orientation, marital status, religion, nationality or background.

Women have traditionally been under-represented in the fields of science and engineering; SKA Observatory welcomes and encourages female applicants.

Where applicants with a disability need facilities or adjustments to enable them to participate in the recruitment process, these will be provided.

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SKA-Mid Senior Operations

Scientists

Job Location

Cape Town, South Africa

Area / Department

Science

Contract Type

Permanent

Salary

ZAR 900,000 - 1,175,000 depending on level of experience, plus excellent benefits

Closing Date

13/09/2024

Ref No

10319

At the SKAO we are coordinating a global effort to deliver one of the largest science facilities on the planet. The SKAO telescopes will be next-generation instruments that will help to answer key questions in astrophysics, drive technological innovation and support human capital development.

More than a dozen partner countries and over a thousand scientists and engineers around the world are already on board, making the SKA project an international collaboration like no other, and one of the most ambitious science and engineering endeavours of the 21st century.

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SKAO Operations in South Africa will be conducted in partnership with the South African Radio Astronomy Observatory (SARAO). SKAO Operations in Australia will be conducted in partnership with the Commonwealth Scientific and Industrial Research Organisation (CSIRO). The Observatory will also partner closely with a global network of SKA Regional Centres through which astronomers will access science data products and a suite of tools and resources to further analyse the SKA telescopes' data.

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The SKA Observatory offers a competitive salary and a generous pension and benefits package. As an employee of an intergovernmental organisation, an appointee who is not a national of the country in which the role is based may be subject to personal Privileges and Immunities.

A unique opportunity for two radio astronomers with Observatory experience to play a key role in the operational planning and commissioning of the SKAO and become involved in the science operations of the SKA precursor, MeerKAT.

The Role

The SKAO Science Operations group is seeking to employ two talented and motivated Operations Scientists to join the SKA-Mid team **based at the Science Operations Centre in Cape Town, South Africa**. With the SKA now in construction, planning for the operations of the SKA has entered an exciting phase. In order to support our planning, we are looking for individuals with broad operational and scientific experience within the full range of activities required to run a successful radio observatory. This includes knowledge of the telescope systems, data processing and analysis, as well as experience serving a diverse and distributed user community.

The Operations Scientists will draw on their experience, expertise within their established networks and the broader astronomical community to inform the detailed SKAO operational plan and policies. They will also be required to support the planning and execution of scientific commissioning and verification for the SKA Observatory. Good organisational, communication and collaborative skills are required for this role. In addition, under a joint agreement between the SKAO and SARAO, the SKA-Mid Science Operations team will work jointly with the SARAO MeerKAT operations team to support MeerKAT science operations and commissioning of the MeerKAT extension, until the MeerKAT telescope is integrated into the SKA. This provides an opportunity to gain additional experience in an active observatory environment.

The roles are offered on a full time, permanent basis and the Operations Scientists will periodically need to work outside of normal office hours when fulfilling the Astronomer on Duty support role.

The Senior Operations Scientist will ideally become the team leader and line manager for a team of up to four members.

The appointees will be encouraged to carry out research up to 25% of employed hours. Appropriate support, including conference travel, will be provided.

SKAO is committed to providing an inclusive and flexible working environment, meeting the requests of our colleagues whilst also fulfilling the needs and objectives of the Observatory.

We encourage applications from under-represented groups such as women and individuals with disabilities, as well as open conversations during the recruitment process in relation to any specific requirements.

There may be occasions where this role requires the post holder to work across different time zones and, in line with SKAO policy, flexible working hours will be supported in agreement with the line manager.

Key Responsibilities, Accountabilities and Duties

Under the direction of the SKA-Mid Head of Science Operations, the post holder will:

- Lead and line manage a team of up to 4 operations scientists.
- Provide mentorship and guidance.
- Support the development and continual refinement of the science operational model for the SKA telescopes.
- Ensure consistency between the SKA System Level requirements with those needed for the successful future operation of the SKA telescopes.
- Contribute to commissioning and science verification of MeerKAT Extension and SKA-Mid Telescope, including the development of plans, requirements for early array releases and test procedures.
- Support the development of software needed to operate the SKA Telescopes or necessary for the SKA user community.
- Effectively collaborate with SKAO staff across the three sites. Occasional travel to the SKAO telescope sites in Australia and/or South Africa will be necessary (typically once a year for up to 2 weeks).
- Support MeerKAT science operations by serving as Astronomer on Duty on a roster basis, conducting feasibility reviews and providing user support as needed.
- Undertake other duties as directed by the SKA-Mid Head of Science Operations.

Mandatory Knowledge, Skills and Experience

- University PhD degree in Astronomy, Physics, Engineering or another closely related and relevant field, or equivalent experience.
- Expertise in radio astronomy techniques including in the acquisition, reduction and analysis of astronomical data.
- Experience with the operation of astronomical observatories.
- Experience working with a diverse and globally distributed telescope user community and providing appropriate user support.
- Effective oral and written communication skills in English.
- An awareness of, and commitment to, equitable practices, including accessibility, to facilitate broad access to the Observatory.
- Flexibility and adaptability to change.
- Ability to successfully lead and manage a small team, promoting diversity and developing an inclusive, high-performing culture, with aptitude to work productively with a diverse team
- Good organisation and time management skills with the ability to prioritise and work effectively to meet competing deadlines.
- Ability to influence diverse internal and external stakeholders at a variety of seniority levels (e.g. senior management, potential SKA users etc.)
- Ability to act as a mentor to less experienced group members.

Desirable Knowledge, Skills and Experience

- Experience commissioning radio astronomy instrumentation (or similar).
- Experience working in large collaborative projects.
- Experience understanding and articulating the needs of a user (e.g. radio astronomer) to inform the development of requirements (e.g. through a series of use cases) and/or operational policies.
- Ability to work effectively with engineers and scientists from a variety of cultures and influence people in widely differing parts of a complex organisation.
- Awareness of equitable practices, including accessibility, to facilitate the broadest possible access to the Observatory from the scientific user community.
- Expertise across a breadth of radio astronomy techniques, including one or more of, e.g. Very Long Baseline Interferometry, beamforming techniques and/or time domain science (pulsars, fast transients).

Equality Diversity and Inclusion Statement

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Our aim is to recruit and retain the most talented individuals, regardless of gender, race, disability, age, sexual orientation, marital status, religion, nationality or background.

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SKA Observatory welcome all candidates, especially those from member countries.

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SKA-Low Operations Scientists

Job Location

Perth, Australia

Area / Department

Telescope Operations

Contract Type

Permanent

Salary

AUD 125,000 - 175,000 Depending on the role and level of experience, plus excellent benefits

Closing Date

13/09/2024

Ref No

10296

At the SKAO we are coordinating a global effort to deliver one of the largest science facilities on the planet. The SKAO telescopes will be next-generation instruments that will help to answer key questions in astrophysics, drive technological innovation and support human capital development.

More than a dozen partner countries and over a thousand scientists and engineers around the world are already on board, making the SKA project an international collaboration like no other, and one of the most ambitious science and engineering endeavours of the 21st century.

Headquartered in the UK, with telescope sites in Australia and South Africa, the SKAO will be one observatory operating two telescopes, an endeavour spanning three continents. Multinational by design, in early 2021 the SKAO became an intergovernmental organisation, one of only a select handful of science infrastructures to do so worldwide.

Construction activities for the SKAO's telescopes in Australia and South Africa started in 2021, along with a ramping up of SKAO staff in both countries. It is expected that the transition from the Construction Phase to the Operations Phase will happen around 2028.

SKAO Operations in South Africa will be conducted in partnership with the South African Radio Astronomy Observatory (SARAO). SKAO Operations in Australia will be conducted in partnership with the Commonwealth Scientific and Industrial Research Organisation (CSIRO). The Observatory will also partner closely with a global network of SKA Regional Centres through which astronomers will access science data products and a suite of tools and resources to further analyse the SKA telescopes' data.

For more information on the SKA project visit <https://www.skao.int/>

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A unique opportunity for talented and motivated radio astronomers to play major roles in the scientific verification and operation of the world's largest low-frequency radio telescope.

The Role

The SKA-Low Operation Scientists will have a unique opportunity to shape the operation of the SKA-Low Telescope through providing domain knowledge and expertise. During construction and early array deployment, they will assist with commissioning, as well as plan and conduct science verification. The Science Operations team will verify the end-to-end science process, including proposal submission, scheduling, execution, data reduction and delivery.

When the telescope will be fully operational, the Operations Scientists will develop new capabilities, respond to new science directions and provide astronomical observing expertise to operations, ensuring the successful delivery of data for the key science objectives of the SKAO.

The Operations Scientists will report to the SKA-Low Head of Science Operations and be part of the global science operations team. They will collaborate with multidisciplinary SKAO colleagues across all sites and interact with the global science community to communicate progress.

The Operations Scientists will also have the opportunity to maintain an active research career, with up to 25% of their time available for personal research. SKAO also has close contacts with universities in Australia, allowing for co-supervision of students and postdoctoral fellows.

We are looking to appoint up to **two Operations Scientists** and **one Senior Operations Scientist**, who will ideally become the team leader and line manager for a team of up to four members. Please specify in your cover letter which position you wish to be considered for.

SKAO is committed to providing an inclusive and flexible working environment, meeting the requests of our Colleagues whilst also fulfilling the needs and objectives of the Observatory. These roles may be offered on a full-time, part-time or job share basis.

We encourage applications from under-represented groups such as women and individuals with disabilities, as well as open conversations during the recruitment process in relation to any specific requirements.

There may be occasions where this role requires the post holder to work across different time zones and, in line with SKAO policy, flexible working hours will be supported in agreement with the line manager.

Key Responsibilities, Accountabilities and Duties

The post holder will:

- Contribute to the commissioning and science verification of array releases, including the development and implementation of test plans and procedures.
- Support the development and continual refinement of the science operational model for the SKAO, including the software needed.
- Provide user support to the scientific community including ensuring the broadest possible accessibility to SKA observing time and data.
- Effectively collaborate with SKAO Science Operations staff across the three sites; occasional international travel to the SKAO sites in the UK and South Africa may be required.
- Optionally undertake a programme of personal research, related to the science undertaken at SKAO, up to 25% of employed hours.

- Undertake any other reasonable duties as directed by the line manager and senior management.

The Senior Operations Scientist will have the following additional responsibilities:

- Lead and line manage a team of up to 4 operations scientists.
- Provide mentorship and guidance.

Mandatory Knowledge, Skills and Experience

- A doctorate in astronomy, physics, engineering, or another closely related field, or equivalent experience.
- Expertise in astronomy techniques including in the acquisition, reduction and analysis of astronomical data.
- An appreciation and understanding of the radio astronomy science cases motivating the SKA Observatory.
- Demonstrated aptitude to undertake scientific facility operation, provide user support and translate the needs of the user to requirements and/or operational policies.
- Demonstrated aptitude to work collaboratively across disciplines, with engineers and scientists from a variety of cultures, contributing to an inclusive team environment.
- Effective written and oral communication skills in English.
- An awareness of, and commitment to, equitable practices, including accessibility, to facilitate broad access to the Observatory.

The Senior Operations Scientist will additionally require:

- Ability to successfully lead and manage a small team, promoting diversity and developing an inclusive, high-performing culture, with aptitude to work productively with a diverse team.
- Good organisation and time management skills with the ability to prioritise and work effectively to meet competing deadlines.
- Ability to influence diverse internal and external stakeholders at a variety of seniority levels (e.g. senior management, potential SKA users etc.)
- Ability to act as a mentor to less experienced group members.

Desirable Knowledge, Skills and Experience

- Experience in commissioning astronomy instrumentation.
- Experience with, or understanding of, ionospheric and direction-dependent calibration techniques relevant to the frequencies of the SKA-Low Telescope.
- Wider astronomy experience such as but not limited to Very Long Baseline Interferometry, beamforming techniques and/or time domain science (pulsars, fast transients).

- Experience of working in a multicultural environment across international boundaries and time zones.

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SKA-Low Site Product Assurance Engineer

Job Location

Geraldton, Australia

Area / Department

Business Support

Contract Type

Fixed Term Contract

Salary

AUD 125,000-147,000 Depending on the level of experience, plus excellent benefits

Closing Date

15/09/2024

Ref No

10315

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An ideal role for a candidate with experience in developing and implementing quality assurance and control requirements for the manufacturing and testing of products at contractors' facilities and the intended operational environment before the Customer accepts them.

The Role

The Product Assurance (PA) team, led by the PA Manager is made up of a small team of engineers in the Assurance Department of the SKAO. The team is responsible for the definition and implementation of the quality assurance and control requirements for the MeerKAT Extension and SKA Projects to ensure that products meet the SKA requirements and are compliant with SKAO standards, statutory and regulatory requirements.

The Site Product Assurance Engineer will be responsible for the practical implementation of the quality assurance and control requirements of the SKA project at the SKA telescope site in Australia, providing regular updates to the Product Assurance Manager and the project team. This requires being permanently based in Australia for the duration of the contract. Their main responsibility is to regularly monitor the implementation of work processes, reviewing and evaluating the work outputs at the different stages of the work to ensure that they comply with requirements, applicable standards and regulations; enlisting the support of Subject Matter Experts (SMEs) as needed when carrying out these activities. Thus, the Site Product Assurance Engineer plays a major role in assuring the quality of the work processes for the integration and verification of the products into the SKA telescope system.

The Site Product Assurance Engineer will need to liaise closely with the SKAO Site Management Team and the relevant contract Project Managers and Design Authorities, providing details to them of issues or concerns that have been found, and ensuring co-ordinated responses to the contractors.

The PA activities required for the SKA will involve several challenges which are unique to research infrastructures; the successful candidate will be one who can rise to these challenges and overcome them to help deliver a world-leading facility that will create new insights into the workings of the Universe. Thus this will require a confident communicator with good process knowledge, problem-solving skills, flexibility and the ability to adapt to the ways of working in a research environment to come up with innovative theoretical ideas for quality problems and translate them into practical solutions for implementation.

There will be occasions where these role requires the post holder to travel within Australia.

For this role, the successful candidate will be based at the SKA LOW site in Australia. This is a fixed term position with duration of three years.

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Key Responsibilities, Accountabilities and Duties

Prepare for Quality Assurance and Control

- Produce and maintain a stakeholders management matrix of relevant SKAO disciplines that would provide the inputs and advice needed for the quality assurance and control activities at the telescope site.
- Identify and/or clarify with the contractor the standards to be applied in the assembly, integration, inspection and test activities.
- As part of activities for the development of test plans, work with the contractor and relevant stakeholders to agree on Mandatory Inspection Points (MIPs) that will be monitored during the assembly, integration, inspection and test activities.
- Tailor existing PA templates for First Article Inspection (FAI), Functional Configuration Audit (FCA), Physical Configuration Audit (PCA) etc. in readiness for use to support the PA activities for the contract.

Perform Quality Assurance and Control

- Coordinate with individuals identified in the stakeholder management matrix as the interface to their counterparts on the contractors' side for the implementation of their inputs and advise on relevant domain-specific requirements at the telescope site.
- Monitor the implementation of the Contractor's Quality Plan and carry out process and product audits as required, following up on the implementation of the preventive and corrective actions from these audits to ensure they are carried out in a timely fashion.
- Collaborate with the Site Managers and interfacing contractors who need to manage the dependencies of construction activities and existing facilities at the site, to ensure that the quality assurance activities are carried out in a timely fashion.
- Ensure that deliverables, especially documentation, is timely accepted and managed in accordance with the SKAO Configuration Management Plan
- Deal with quality issues, complaints and feedback and where necessary escalate to the Project Manager and Product Assurance Manager to help with their resolution.

- Monitor the implementation of the MIPs by ensuring relevant stakeholders actively participate in the MIPs activities that require their involvement.
- Witness and report on tests and inspection activities to ensure they are carried out in accordance with accepted plans and procedures.
- Regularly report to the project team at contract team meetings on the overall implementation of the quality assurance and control activities at the site.
- Notify the contractor of nonconformances or defects, following up on the implementation of the preventive and corrective actions to ensure all nonconformances or defects are resolved in a timely manner.
- Ensure that deliverables, especially documentation is timely accepted and managed in accordance with the SKAO Configuration Management Plan
- Where within the Scope of SKAO, perform incoming inspection of delivered products and produce the reports.
- Promote the implementation of the SKAO and contractor's Health and Safety policies and plans to ensure there is zero harm to yourself or others while carrying out the PA activities.

Manage Quality Assurance and Control Records

- Log Learning from Experience (LfE) for all activities and ensure they are embodied in entry criteria into all reviews
- Maintain quality records that include Nonconformance or Defects Logs, Change Records, Early Warning Logs, and contractor's progress records, including, where applicable, imagery.

Mandatory Knowledge, Skills and Experience

The successful applicants for this role shall have:

- Degree in manufacturing engineering or related disciplines or equivalent experience
- Experience in carrying out quality assurance-related activities on major capital projects (typically at least three years), preferably involving infrastructure or complex mechatronic systems
- Experience in planning and carrying out product and process audits
- Experience in planning and carrying out tests and inspections on equipment and systems
- Knowledge and implementation of ISO 9001 and ISO 19011 (or demonstrated equivalence) in major capital projects
- Self-motivated problem-solver, confident communicator with the ability to influence internal and external stakeholders

Desirable Knowledge, Skills and Experience

The ideal candidates would also have:

- Knowledge of working in the space or research infrastructure (preferably astronomy) industries
- Understanding of systems engineering processes and familiarity with ISO/IEC/IEEE 15288 standard
- Experience in safety management systems
- Quality Assurance certifications

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SKA-Mid Commissioning Scientists

Job Location

Cape Town, South Africa

Area / Department

Science

Contract Type

Fixed Term Contract

Salary

Competitive salary depending on role and experience, with attractive benefits package.

Closing Date

30/08/2024

Ref No

10297

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SKAO Operations in South Africa will be conducted in partnership with the South African Radio Astronomy Observatory (SARAO). SKAO Operations in Australia will be conducted in partnership with the Commonwealth Scientific and Industrial Research Organisation (CSIRO). The Observatory will also partner closely with a global network of SKA Regional Centres through which astronomers will access science data products and a suite of tools and resources to further analyse the SKA telescopes' data.

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The SKA Observatory is seeking to appoint experienced and motivated radio astronomers to plan and execute the scientific commissioning of the SKA-Mid Telescope array. The postholders will form the nucleus of a small group of commissioning astronomers primarily based in Cape Town, South Africa, with the

possibility of the location at the headquarters in the UK being considered under exceptional circumstances. We are also open to secondments.

The Role

As part of the construction of the SKA-Mid Telescope, a team of commissioning scientists is needed for planning, executing, and analyzing test observations. This recruitment aims to hire the **first four roles**, with the team expanding over the next 12 months. At the end of the construction phase of the project the SKA-Mid Science Operations team will be recruiting more positions. Should applicants applying for this role possess the relevant skills, and these are tested at interview and assessment, then they may receive the offer of a **permanent contract**. Other applicants may receive offers for this role based on a **4-year fixed term contract** but will of course have the opportunity to apply for further roles with the Observatory following the completion of their contract. Commissioning activities will commence immediately and will continue through to initial operations of the telescope.

Two skill sets are required: organisational and technical. Therefore we aim to fill four posts, including one Lead. Depending on applicants' experience, one of the other posts may be at the Senior level:

- Lead Commissioning Scientist: Manages the commissioning team. Capable of leading the group, planning and documenting tests, and organising interactions with external stakeholders.
- Senior Commissioning Scientist: Acts as technical lead for the group and mentor to less experienced members. Must have significant commissioning experience and a deep understanding of interferometric radio astronomy and system issues. Quite likely to prefer secondment.
- Commissioning Scientist: Familiar with the operation of radio interferometric arrays and with high potential to develop commissioning skills.

The Lead reports to the Head of System Science and the SKA-Mid Telescope Director. The remaining positions will handle specific technical areas under the Lead's direction.

Please indicate on your application whether you would like to be considered for the Lead Commissioning Scientist position.

Research and Career Progression:

The appointees will be encouraged to carry out research in astronomy or astronomical instrumentation at a level commensurate with the requirements of the post (typically 25%) and in particular to exploit early opportunities with the SKA. Appropriate support, including conference travel, will be provided.

These roles are primarily based in Cape Town, South Africa, with occasional travel to the UK and Karoo. Applications to be based in the UK will be considered in exceptional cases.

SKAO is committed to providing an inclusive and flexible working environment: we believe you perform your best when you have a healthy work-life balance. We are open to discussing flexible working opportunities with these roles being offered on a full-time, part-time or job share basis. Please raise your preference in your application.

We encourage applications from under-represented groups such as women and individuals with disabilities, as well as open conversations during the recruitment process in relation to any specific requirements.

There will be occasions where these roles require the post holder to work across different time zones and, in line with SKAO policy, flexible working hours will be supported in agreement with the line manager.

Informal enquiries may be made to Robert Laing, Head of System Science (Robert.Laing@skao.int).

Key Responsibilities, Accountabilities and Duties

The primary tasks of the Science Commissioning group are:

- Take responsibility for science commissioning tasks including but not limited to: planning, execution and analysis of test observations on the telescope array. The group will work closely with the System Science Group based at GHQ (UK), which has oversight of commissioning of both SKA Telescopes.
- Submit both written and verbal reports on the analysis done during the commissioning activities.
- Close collaboration with engineering (hardware and software) groups involved in construction to verify aspects of the system and to identify and suggest corrections as needed. There will be a particularly close interaction with the Assembly, Integration and Verification (AIV) Group based in Cape Town, South Africa to verify the top-level engineering requirements of the array.
- Maintain a close interaction with the Science Operations Group, in particular to support Science Verification.
- Create the documentation for commissioning test procedures, initially for the early deployment of SKA-Mid.

Further, the Lead Commissioning Scientist requires additional essential criteria, as follows:

- Lead the SKA-Mid Science Commissioning Group.
- Take responsibility for detailed planning of the science commissioning of the SKA-Mid Telescope.
- Oversee the development, execution and documentation of astronomical test procedures, initially for the early deployment of SKA-Mid.
- Take responsibility for specific technical areas.
- Maintain close and effective collaboration with Engineering (AIV), Science Operations and System Science groups.

Mandatory Knowledge, Skills and Experience

The appointees will be active radio astronomers with the following qualifications, skills and experience:

- PhD in astronomy or physics, with substantial experience in observational radio astronomy.
- Strong understanding of radio astronomical techniques, most importantly interferometry, and demonstrated ability to reduce and interpret data from radio telescopes.
- A good understanding of the science enabled by the SKA.
- Experience of working in one or more of the construction, commissioning or operation of a radio observatory.
- Experience of working in a team, contributing constructively to an inclusive and high performing team culture.

Additional Expertise for Senior Commissioning Scientist:

- Extensive commissioning experience.
- Deep technical knowledge of mid-frequency radio interferometry.
- Demonstrated ability to solve complex and subtle system issues.
- Ability to act as a mentor to less experienced group members.

Additional Expertise for Lead Commissioning Scientist:

- Ability to successfully lead and manage a small team, promoting diversity and developing an inclusive, high-performing culture.
- Ability to manage workloads and priorities in a dynamic and collaborative environment and to manage a team to meet deadlines.
- Ability to influence people in different parts of a highly diverse organisation, including senior management and external stakeholders (e.g. potential SKA users).

Desirable Knowledge, Skills and Experience

- Proven track record in commissioning of radio telescopes (hardware or software), including test, scripting and debugging experience, and ability to analyse complex, system-level problems.
- Background in mid-frequency interferometry and/or non-imaging (beam-forming) applications such as pulsar search and timing. Experience in direction-dependent calibration methods would be a particular advantage.
- Experience of remote working with teams across multiple time zones.
- Proficiency in written documentation, particularly test and problem reporting in English.

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Science Operations Software

Development Professionals

Job Location

Cheshire, UK (Head Office)

Area / Department

Engineering

Contract Type

Permanent

Salary

£ 60,000 - 80,000 Depending on role and experience, with excellent benefits

Closing Date

06/09/2024

Ref No

10304

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Our Global HQ is located near the buzzing city of Manchester at the historic Jodrell Bank Observatory, a UNESCO World Heritage site located in the Cheshire countryside. It is home to a rapidly expanding international team of more than a hundred, working in a highly collaborative and inclusive way, in coordination with SKAO teams in Australia and South Africa as part of a global astronomy and engineering community.

Being part of Team SKA means contributing to something extraordinary: a uniquely exciting project to advance human knowledge that will last for decades. In return, we offer a diverse multicultural working environment, 30 days annual leave plus public holidays, a generous pension scheme, visa and support with relocation (if applicable), regular social events, a family-friendly environment and much more. Come and join us!

A unique opportunity for experienced Astronomers or Software Engineers with a background in proposal tools and systems for management of complex (ideally scientific) business processes and workflows, with a focus on the development of an integrated user experience across a range of applications, to join an international, multicultural organisation.

The Role

As part of the construction of the SKA telescopes, the software team undertakes the development of the Observatory Science Operations software tools used to manage the SKA observations' lifecycle.

This recruitment aims to hire two positions in this area, with different roles and responsibilities:

- A Science Operations Software Architect to act as a technical coordinator for the development of this system, as part of the SKA software
- A Science Operations Software Engineer to contribute to the development of this system and become a technical leader in this area

Please specify in your cover letter which position you wish to be considered for.

The Software Architect will report to the SKAO Lead Software Architect whereas the Software Engineer will report directly to the OSO Software Architect.

The Observatory Science Operations (OSO) software system comprises a suite of web based tools and services that allow end-users (both the astronomical community and observatory staff) to propose, prepare, manage and track observations, sharing the telescope resources to maximise scientific productivity.

These roles can appeal to someone with hands-on experience in astronomical observatories or similar large scientific infrastructures, or someone with a background in development of web based systems.

These roles will be based at the SKAO Global Headquarters at the iconic Jodrell Bank Observatory, in Cheshire, UK, and occasional international travel may be required (typically for one week, up to 4 times per year).

In your role, we will support your continuous professional development. Working at SKAO also presents many chances to join international events, conferences and industry events that relate to your role and your professional interests.

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Key Responsibilities, Accountabilities and Duties

The main duties for the Software Engineer role will be to:

- Work within the software development teams in the SKA Observation Monitoring and Control Agile Release Train to deliver the SKA Observatory Science Operations (OSO) system.
- Act as a technical expert in the development of the SKA OSO software system, by providing guidance and best practices in the development of complex user-facing web based software products.
- Actively participate in the software development activity by writing and reviewing code in critical areas of the project, working with international agile teams as needed for a given number of increments.
- Undertake any other reasonable duties as directed by the OSO Software Architect and senior management.

The Software Architect will:

- Be the technical design authority for the OSO software system, ensuring that its design and implementation is continuously meeting SKA requirements and goals, and maintaining up to date technical documentation.
- Interact with stakeholders, especially in the domain of Science Operations, and be able translate their functional and non-functional requirements into the technical domain, with particular attention to the usability of the OSO system and the timelines for OSO delivery.
- Be in a leadership role, working with the SKA Software Architecture and the OMC program team, to manage and lead software development teams based around the world
- Undertake any other reasonable duties as directed by the line manager and senior management.

Mandatory Knowledge, Skills and Experience

The appointees will demonstrate experience in the development of web based systems or in the development of management software for observatories or similar science facilities.

The software engineer will be providing:

- Experience in the design and development of web-based frontend software systems preferably in an agile/iterative environment.
- Expertise in at least one of Javascript and Python software development, using frameworks such as React and server-side technologies such as flask. The candidate is

encouraged to provide evidence in the form of publicly available code if and where possible.

- The ability to work in a team and being a flexible team player who is adaptable to change and able to work to deadlines.

The software architect will bring to the team:

- Technical or scientific expertise in the development of scientific management systems for large scientific facilities, such as proposal submission tools, or a comparable system that can be demonstrated to have similar characteristics.
- Experience with the formalism for, and requirements of software architecture standards (e.g. UML, ISO/IEC 42010, SEI Views and Beyond, C4).
- Ability to bridge between user needs and the software architecture and technical solutions.
- Ability to communicate it in a constructive and effective manner, both orally and in writing, to an audience that spans a wide range of cultures and backgrounds.
- Experience in coordinating software development activities in a large project.

Desirable Knowledge, Skills and Experience

The ideal candidate would also:

- Have a background in observation planning and execution preferably with a radio telescope facility or experience of working at or for an astronomical observatory.
- Demonstrate knowledge of the software lifecycle of web based systems involving use of CI/CD tools to integrate database, backend and frontend applications.
- Be experienced in lean/agile principles adopting DevOps and Lean UX practices or be willing to learn them.
- Have an understanding of database technologies and their place in full-stack development.
- Have past experience of working in a multicultural environment across international boundaries and time zones.

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Our aim is to recruit and retain the most talented individuals, regardless of gender, race, disability, age, sexual orientation, marital status, religion, nationality or background.

Women have traditionally been under-represented in the fields of science and engineering; SKA Observatory welcomes and encourages female applicants.

Where applicants with a disability need facilities or adjustments to enable them to participate in the recruitment process, these will be provided.

SKA Observatory welcome all candidates, especially those from member countries.

The “How to Apply” information contained within the SKA Observatory recruitment portal provides more detail regarding our application and selection approach.