CERN, the European Laboratory for Particle Physics, is one of the world’s largest and most respected centres for scientific research. Its core mission is the study of the fundamental constituents of matter and other elementary particles using high-energy accelerators; it addresses some of the most exciting outstanding questions in physics. The laboratory, based in Geneva (Switzerland), currently operates the most powerful accelerator in the world, the Large Hadron Collider (LHC).

CERN is an Intergovernmental Organization with 23 Member States. It employs around 2500 staff members (physicists, engineers, technical and administrative personnel). Its research facilities are used by more than 13000 scientists, coming from more than 600 institutes from all over the world and representing nearly 100 different nationalities.

CERN is seeking to recruit a Director for Finance and Human Resources.

As a member of the Directorate, reporting to the Director-General, the Director for Finance and Human Resources will play a leading role in ensuring that the Organization’s financial and human resources match its scientific goals and allow efficient operation of the Laboratory’s facilities.

For full details of the position and how to apply please visit https://careers.cern/FHR.

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The world-renowned Manufacturing Metrology Team (MMT) at the University of Nottingham has a range of PhD positions to carry out research into the cutting edge of metrology. Our research combines a deep understanding of the physics of a measurement process with advances in artificial intelligence, to develop the next generation of measurement and analysis tools for engineering and manufacturing. MMT is an international and diverse team that thrives on openness and cooperation – students work in teams to achieve joint goals in a friendly but professional cohort setting. MMT has state-of-the-art lab and office facilities in the new Advanced Manufacturing Building on the beautiful Jubilee Campus. All projects are supported by industrial partners and/or national research labs and provide the PhD candidate with an enhanced stipend as well as opportunities for collaboration with major international groups. A range of 3 to 4 year projects are available with the balance of theory to experiment to be subject to the candidate’s expertise and requirements.

The following themes are currently available for start in October 2020 or earlier. See our website for full project descriptions and notes:

- Characterisation of confocal microscopy for surface topography measurement
- Smart AI algorithms for 3D shape measurement technology
- High accuracy robotic system for precise object manipulation
- Psychophysics: linking physical and psychological function
- In-process optical surface measurement sensor using machine learning
- Measurement uncertainty in advanced manufacturing
- Super-resolution metrology of image-forming diffractive waveguides for augmented and mixed reality displays

Please send a copy of your covering letter, CV and academic transcripts (or just informal enquires at first) to richard.leach@nottingham.ac.uk. We especially welcome candidates from a diverse range of backgrounds.

**Funding Notes**

Full fees and enhanced stipend are available. The positions are available for UK or EU candidates, but International applicants who can pay the difference between the Home and International Fees would also be welcome to apply. MMT encourages international travel to conferences during the course of the PhD, which would be fully funded.

Candidates must possess or expect to obtain, a high 2:1 or 1st class degree in science, engineering, computer science, or other relevant discipline.
I. Introduction
Shandong Institute of Advanced Technology is a new international research institute established by the Government of Shandong Province, China. The goal is to provide a facility for scientists and engineers to carry out advanced research and development in science and technology. The Institute will be located in Jinan, Shandong Province on a 150,000 m² campus with infrastructure and engineers to carry out advanced research and development in science and technology. The Institute will provide the opportunity for scientists and engineers to carry out their research for young scientists and engineers. In particular, to ultimately take a leadership role in the activities of the Institute. It is anticipated that the Institute will become a world class research facility in the near future.

II. Research fields
Particle physics, thermal science, and computing science are the three main research fields for the Institute in the initial stage.

1. Particle physics
   The Particle Physics Research Center is established to perform large scale experimental research on particle physics and astro-particle physics. Currently, the main mission is to continue the long-term participation in the Alpha Magnetic Spectrometer Experiment (AMS) on the International Space Station searching for dark matter, antimatter, the origin of cosmic rays, and the measurements of cosmic radiation in outer space as well as solar physics. We are establishing a new laboratory to develop advanced particle physics detector instrumentation for ground and space applications. In the long term, we plan to propose new experiments to further explore the fundamental structures of matter and the origin of the universe.

2. Thermal science
   The Thermal Science Research Center is established to perform research in thermal science and engineering. We will continue to collaborate with the European Center for Nuclear Research (CERN) and the Massachusetts Institute of Technology (MIT). The Thermal Science Research Center currently consists of a surface cooling laboratory, an enhanced heat transfer laboratory, and a vacuum cryogenic laboratory. The main research areas include: heat transfer in micro and nano scale, near field radiation, enhanced heat transfer, and ultra-cryogenic technologies.

3. Computing science
   The Computing Science Research Center is established to perform research in mathematics and computing and is currently responsible for the establishment of an AMS global data center. The AMS global data center consists of 30,000 cores and 2 PB of storage and is expected to be fully operational in the beginning of 2020. This will be a principal data center for the AMS experiment.

III. Open Positions
The Institute is an international facility and is searching for qualified candidates worldwide. Currently, it has openings for both senior and junior scientists and engineers including internationally recognized scientists and engineers, senior scientists and engineers, principal researchers, scientists, and engineers, and postdoctoral scientists. The appointment of each position will be based on international peer review standards to evaluate each candidate’s qualifications.

IV. Salary and Funding
In addition to the salary and funding support itemized below, the Institute provides housing, medical insurance, accident insurance, childcare, and children’s education to all levels of the Institute’s staff.

1. International distinguished scientists and engineers: annual salary above 1.5 million RMB; startup funding of over 10 million RMB, more funding will be provided if necessary.
2. Senior scientists and engineers: annual salary between 800k and 1200k RMB; startup funding of over 5 million RMB.
3. Principle scientists and engineers: annual salary between 600k and 800k RMB; startup funding of over 3 million RMB.
4. Postdoctoral scientist: annual salary between 300k and 600k RMB.

V. Contact
Interested candidates should provide their resumes, a brief introduction of their research achievements and interests, and contact information for at least three letters of recommendation.

Please send the required material to:
1. Particle physics: Professor Weiwei Xu, Weiwei.Xu@CERN.CH
2. Thermal science: Professor Zheng Cui, zhengc@sdu.edu.cn
3. Computing science: Senior Engineer Hongyi Yin, yhy2011@sdu.edu.cn

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**Postdoctoral Researcher (Soft Matter Theory)**

**Department of Physics & Mathematics, University of Hull, UK**

Applications are invited for a postdoctoral researcher associate position in soft matter theory in the area of colloidal self-assembly. The PDRA must have a PhD in the Theory of Soft Condensed Matter Physics or related discipline by the date of appointment. Candidates should have extensive experience in the theory and simulation of soft condensed matter systems. Experience in using finite element methods such as Surface Evolver would also be highly desirable.

The project follows the award of a €3M EU H2020 Future Emerging Technologies grant (POSEIDON). “Nanophotonic Devices Applying Self-Assembled Colloids for Novel On-Chip Light Sources” (POSEIDON) with the aim of using colloidal self-assembly to fabricate nanoscale light sources on a silicon chip for next generation photonic integrated circuits. Working as part of a world-leading multi-disciplinary team comprising Hull (2 PDRAs, this post and an experimental counterpart, and a PhD studentship) and the wider EU consortium (consisting of 8 institutions in Germany, UK, Spain and the Czech Republic), the post holder will be responsible for modelling the self-assembly of colloidal systems in order to establish the design rules for obtaining target plasmonic and metamaterial structures.

The position will be based in the Department of Physics & Mathematics at the University of Hull which has a thriving research culture with a mix of experimental and theoretical groups encompassing condensed matter physics, applied physics and astrophysics. This is a fixed term position of 24 months. The terms of the grant that fund this position require that employment commences no later than 30 June 2020. UK/ EU and other nationals are eligible to apply for this position.

Salary range £34,804–£40,322 per annum

You can learn more about this position and apply online at [www.hull.ac.uk/jobs](http://www.hull.ac.uk/jobs) (vacancy ref: FS0056).

To discuss this role informally, please contact: Dr Martin Buzza +44-1482-466420 (email d.m.buzza@hull.ac.uk)

Closing date: 7th April 2020

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**The International School for Advanced Studies (SISSA)**

SISSA is a public University founded in 1978 in Trieste, Italy and organized in the three Areas of Physics, Mathematics, and Neuroscience, plus an Interdisciplinary Laboratory. The faculty and student body are international; the English language is used in teaching, research and all academic affairs.

The successful candidate is expected to assume the Directorship by November 1, 2021, for a non-renewable term of 6 years. The Director must be of an academic stature for appointment; a tenured full-time SISSA professor and will be based in Trieste without substantial commitments to other institutions. The Director will be responsible for (1) the academic and financial functions of the School and (2) the relations of the School with national and local levels of government.

The profile of candidates should include a record of outstanding scientific contributions in Physics, Mathematics, Neuroscience or related fields of science. Experience in managing institutional operations, knowledge of the Italian language and familiarity with the Italian university system are advantageous. Applicants resident abroad might be eligible for a significant reduction in the tax rate applied to the gross salary, according to current Italian regulations.

Inquiries or statements of interest are welcome both from candidates and from those wishing to nominate third parties. Please send statements of interest, or documented nominations to the Search Committee by May 15, 2020 at the latest using the address search@sissa.it.
For our location in Zeuthen we are seeking:

**Postdocs for Photo Injector Test Facility PITZ in Zeuthen**

**DESY**

DESY is one of the world’s leading research centres for photon science, particle and astroparticle physics as well as accelerator physics. More than 2400 employees work at our two locations Hamburg and Zeuthen in science, technology and administration.

The Photo Injector Test Facility PITZ in Zeuthen (near Berlin) develops high brightness electron sources for Free Electron Lasers (FELs) like FLASH and European XFEL. The research program at PITZ concentrates on optimization of the electron beam quality for pulsed photo injectors and developments towards future CW electron sources, as well as on applications of high brightness electron beams.

**The position**

3 Postdoc positions are available at PITZ for the following tasks (More details can be found under https://pitz.desy.de/jobs):

- Participate in the upgrade of the photocathode laser systems and develop innovative concepts and techniques for the diagnostics of high-quality laser and electron beams. Perform numerical simulations to support the accelerator R&D program at PITZ towards applications of high brightness electron beams: job offer APPO005/2020
- Further developments of tools for detailed characterization of the electron beam phase space. Perform accurate modeling and numerical simulations of electron beam measurements using scintillating screens. Develop, test and support software packages for automatization and optimization of electron beam measurements: job offer APPO006/2020
- Perform numerical simulations and experimental studies of semiconductor photocathode (Cs2Te, CsK2Sb) photoemission in high gradient RF guns, including particle dynamics in the material and in vacuum during the emission process. The goal is to better understand and improve the photocathodes and the photoemission dynamics to minimize the cathode emittance: job offer APPO007/2020

**Requirements**

Please find more details in the specific announcements mentioned above.

- Excellent university degree in accelerator physics or semiconductor surface physics with PhD
- Strong background in beam dynamics simulations of space charge dominated beams; familiar with numerical simulations (e.g. ASTRA, GEANT) and high level scripting languages (like Python, Matlab); good programming skills
- Knowledge/skills in experimental characterization of photocathodes and photoemission or of particle beams using image processing
- Very deep knowledge of accelerator physics and accelerator technology or very good knowledge in laser technology
- Very good knowledge of English is required and knowledge of German is of advantage
- Participate in the operation of PITZ for accelerator R&D

Please mark in your application for which of the 3 positions you are applying.

For further information please contact Dr. Frank Stephan, +49-33702 77-338, frank.stephan@desy.de.

The positions are initially limited to 2 years.

Salary and benefits are commensurate with those of public service organisations in Germany. Classification is based upon qualifications and assigned duties. Handicapped persons will be given preference to other equally qualified applicants. DESY operates flexible work schemes. DESY is an equal opportunity, affirmative action employer and encourages applications from women. Vacant positions at DESY are in general open to part-time work. During each application procedure DESY will assess whether the position can be filled with part-time employees.

We are looking forward to your application via our application system: www.desy.de/onlineapplication

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**Call for Nomination for Next Director General of KEK**

KEK, High Energy Accelerator Research Organization, invites nominations for the next Director General whose term will begin April 1, 2021.

In view of his/her role that presides over the business of KEK as a representative of the Inter-University Research Institute Corporation, nominees shall be:

1) persons of noble character, with relevant knowledge and experience and having abilities to manage its educational and research activities properly and effectively.

2) persons expected to promote with long-term vision and strong scientific leadership, the highly advanced, internationalized, and inter-disciplinary research activities of KEK by getting support from the public.

3) persons expected to establish and carry out the medium-term goals and plans.

The term of appointment is three years until March 31, 2024 and shall be eligible for reappointment only twice. Thus, he/she may not remain in office continuously over a period 9 years.

We widely accept the nomination of the candidates regardless of their nationalities.

We would like to ask you to recommend the best person who satisfies requirements for the position written above.

Nomination should be accompanied by:

1) letter of recommendation, 2) brief personal history of the candidate, and 3) list of major achievements (publications, academic papers, commendations and membership of councils, etc.). The nomination should be submitted to the following address no later than May 29, 2020:

- Documents should be written either in English or in Japanese.
- Forms are available at: https://www.kek.jp/en/newsroom/2020/03/02/1000/

Inquiries concerning the nomination should be addressed to:

General Affairs Division
High Energy Accelerator Research Organization (KEK) 1-1 Oho, Tsukuba, Ibaraki 305-0801, Japan

Tel: +81-29-864-5114
Email: kek.dgsc@ml.post.kek.jp
Fax: +81-29-864-5560
LASER ENGINEER (ref: LE16)

The expansion of our product range and continuing growth of our company have created an opportunity for a self-motivated, innovative individual to join our laser and optics group designing and developing solid-state and CO2 lasers, and associated systems.

Who is Luxinar?

- We develop laser technology to enhance our world.
- We're an innovative market leader in the development of world-class industrial laser products.
- We take pride in having a collaborative approach with all our customers and partners.
- Our lasers drive future innovations in a range of industries.

For more information visit www.luxinar.com.

What about you? Are you…

- Qualified to graduate level or above having undertaken studies in optics and photonics and/or have professional experience in optics and photonics.
- Willing to grow and learn.
- Flexible, and enjoy the challenge of developing real-life solutions.
- Have experience in one or more of the following: RF matching networks, optomechanical design, Q-switching and mode locking.
- Have an appreciation of mechanical and electronics engineering.

What we offer at Luxinar

- Dual career structure into either engineering or management.
- A stimulating and satisfying environment for personal growth and career development.
- A competitive salary and excellent benefits package.

Interested?

Email your full CV quoting reference “LE16” to recruitment.uk@luxinar.com or apply in writing to Personnel department, Luxinar Ltd, Meadow Road, Bridgehead Business Park, Kingston upon Hull, HU13 0DG.