

Rector's Decree No. 398/2019

## CALL FOR APPLICATIONS

### Summer School

***Digital water management and water-related agroecosystem services: geostatistics, hydroinformatics and groundwater flow numerical modelling***  
**2018/2019 academic year**

#### Art. 1 – General information

The Institute of Life Sciences of the Scuola Superiore Sant'Anna (Pisa – Italy) organises the second edition of the Summer School ***Digital water management and water-related agroecosystem services: geostatistics, hydroinformatics and groundwater flow numerical modelling***, pursuant to Art. 3 of the Charter.

The Summer School is an activity foreseen in Action D2 (Dissemination of results) of the EU LIFE REWAT (*sustainable WATER management in the lower Cornia valley through demand REDuction, aquifer Recharge and river REstoration*; <http://www.liferewat.eu>) project co-financed by the European Union. The LIFE REWAT takes place in the coastal Cornia plain (Tuscany, Italy). There, the aquifer system provides the only source of water for drinking, irrigation, and industrial purposes, and it also contributes to the water needs of the nearby Elba island. Since 60 years, intensive exploitation of groundwater resulted in consistent head lowering and water balance deficit, causing subsidence, reduction of groundwater dependent ecosystems, and salinization of freshwater resources. Rebalancing the water budget of the hydrologic system by means of innovative concepts (such as those of water-related agroecosystem services and nature-based solutions) is the main objective of the LIFE REWAT project. Five demonstration measures (river restoration; Managed Aquifer Recharge; reuse of treated wastewater for irrigation; high irrigation efficiency scheme; leakage management in water distribution systems) are in place for promoting water resource management, along with capacity building and participatory actions. Information and Communication Technologies (ICT; sensors and software use) are widely used in order to monitor the impact of such actions and to monitor quantitative and qualitative status of the groundwater resource.

The Summer School will be held at Scuola Superiore Sant'Anna, Pisa (Italy), on September 9<sup>th</sup> - 20<sup>th</sup>, for a total of 80 hours. Because of the need of keeping ICT applied laboratory small, enrolment must be limited to a maximum of 24 participants. The official language of the Summer School is English.

#### Art. 2 - ECTS

The Summer School envisages the acknowledgement of 4 European Credit Transfer and Accumulation System (ECTS) for students attending 75% of the whole Summer School programme.

Acquiring European Credit Transfer and Accumulation System (ECTS) is subject to passing the foreseen learning test and complying with the attendance obligations envisaged.

Training credits are foreseen for Italian engineers, geologists, agronomists on the basis of specific agreements signed with the respective professional bodies in Italy.

### Art. 3 - Objectives

The Educational Objectives of the Summer School aim at proposing innovative ideas on water resource management by focusing on the concept of water-related agro-ecosystem services and on nature-based solutions and blue infrastructures. Digital tools (software applications) will constitute the other pillar of the Summer School, aiming at preparing the participants to develop the skills for dealing with the management and analysis of water-related spatial data by using state-of-the-art Information and Communication Technologies.

### Art. 4 Recipients

The Summer School is designed for early career scientists (MSc students, PhD students or post-doc), technicians from public authorities (water authorities, river basin authorities, environmental protection agencies) and geo-environmental companies, water utilities operators with a degree in engineering, environmental sciences, earth sciences, agricultural engineering, physics, mathematics, informatics.

The Summer School is particularly relevant for participants interested in innovation and software application in water resource monitoring and management, in particular dealing with:

- aquifer overexploitation,
- saltwater intrusion,
- non-conventional use of water resources;
- treated wastewater reuse,
- agricultural water use,
- GIS and spatial data analysis,
- hydroinformatics,
- ICT in hydrochemistry
- numerical modelling of groundwater flow and solute transport in aquifers.

The Summer School is organised within the framework of the **ICT4WATER** cluster ([www.ict4water.eu](http://www.ict4water.eu)) and the **EUROPEAN INNOVATION PARTNERSHIP on WATER** ([www.eip-water.eu](http://www.eip-water.eu)).

### Art. 5 - Summer School structure and teaching methods

The Summer School has a duration of 10 days, and it is structured in:

- a. 9 days of class lectures and applied software laboratories (Including the 2<sup>nd</sup> FREEWAT International Workshop),
- b. one day Technical Trip at LIFE REWAT innovative pilot schemes in Val di Cornia.

Class lectures and exercises are divided in five modules:

- i) Module I: Innovation in water resource management: water-related agroecosystem services and nature-based solutions;
- ii) Module II: Data management, spatial data analysis and geostatistics;
- iii) Module III: ICT for Hydrochemistry
- iii) Module IV: Hydroinformatics: introducing programming to water resource management;
- iv) Module V: Numerical modelling of groundwater flow in aquifers.

Further information on the Summer School programme and modules may be obtained by writing to Rudy Rossetto ([r.rossetto@santannapisa.it](mailto:r.rossetto@santannapisa.it))

Classes begin each day at 9.00 AM and end at 6.00 PM, with one hour for lunch. Each class is 2 hours long, including 15 minutes break.

Theoretical and applied lectures will make use of real data coming from LIFE REWAT interested area: the Val di Cornia coastal plain.

The teaching activities will make use of an extremely interdisciplinary approach granted by the diverse competences of the key staff members.

Free and Open Source Software will be used for applied lectures. The FREEWAT software ([www.freewat.eu](http://www.freewat.eu)) will be used in the modelling module. Participants are required to bring their own laptop.

The attendance to the International Workshop and Technical Trip is free of charge.

Up to a maximum of additional 80 participants will be allowed to participate to the International Workshop.

Up to a maximum of additional 16 participants will be allowed to participate to the Technical Trip using the facilities provided by the Summer School (lunch not included).

A final assessment test is foreseen at the end of the Summer School.

#### **Art. 6 - Admission requirements**

An admission application may be submitted by persons who have gained at least a 1<sup>st</sup> Cycle University Degree (Bachelor degree/Laurea Triennale/Laurea di I livello), awarded after the completion of at least a three-year university course or a MSc in engineering, environmental sciences, earth sciences, agricultural engineering, physics, mathematics, informatics.

Applicants must have an advanced knowledge of English language.

The above requirements are to be met at the deadline to submit the application.

At any time, the Administration, with motivated decision, may declare the exclusion of a candidate due to lack of admission requirements.

#### **Art. 7 - Application**

Persons wishing to apply for admission to the Summer School must, by and not-later than July 16<sup>th</sup> 2019 at 12 am (GMT):

- A. Submit the application exclusively online, and ensure that the data requested are entered at the following address: <http://www.santannapisa.it/diwat/application>. The online application requires a registration and login procedure (including the creation of a "User ID" and a "Password").
- B. The following documentation, in electronic format, is to be attached to the application, under penalty of non-eligibility to the Summer School:
  - an up-to-date CV in .pdf file;
  - presentation and motivation letter;
  - other documents considered of interest (e.g.: scientific publications, awards, etc.);
  - a scanned copy of a valid passport/ID card.

The presentation and motivation letter must respectively present in 500 words (each):

- the candidate experience (with special reference to the use of GIS and numerical modelling experience), and
- an explanation of why the candidate believes the contents of the Summer School are beneficial to his/her career.

Applications received after the deadline or submitted in a form other than the one indicated in this article, for whatever reason, will not be considered. Late or incomplete applications, whatever the reason, will not be considered.

Falsification of documents and fraudulent statements are punished in accordance with the Italian Criminal Code and the special applicable laws, Art. 75 and Art. 76 of Presidential Decree (D.P.R.) No. 445/2000.

The Scuola Superiore Sant'Anna may monitor the truthfulness of the statements provided and the documents submitted at any time during the procedure, even after the Summer School has started, and request the original documents, should copies having been submitted. In the case of false statements the Scuola Superiore Sant'Anna may decide, at any time, to exclude candidates from the selection procedure, based on a motivated decision issued by the Rector, without prejudice to the resulting criminal liability.

### **Art. 8 - Selection procedure**

The Summer School is open to a maximum of 24 participants; it will take place with a minimum of 12 participants.

The selection process is carried out by a standing special Committee appointed by the Rector of the Scuola Superiore Sant'Anna. The selection will be performed by evaluating the candidate's titles on the basis of candidates' application form and submitted documents. The Committee will select the applicants by awarding up to 100 points to their qualifications according to the following criteria:

- Educational qualification and experience: up to 40 points;
- Scientific publications (e.g.: full papers/abstracts presented at conferences): up to 20 points;
- Presentation and motivational letter: up to 30 points;
- Professional/academic experience in the field/awards: up to 10 points.

The above-mentioned documents have to be attached to the application in .pdf format. Professional/academic experiences have to be documented listing the time-period (initial and end date, nature of position, institution/company address, and a contact person).

At the end of the procedure a ranking list will be produced. The first 24 candidates awarded an overall score of at least 60 out of 100 points will be eligible to attend the Summer School.

The youngest candidate will have precedence in the case of ex-aequo.

A decision issued by the Rector duly approves the selection documents, as well as the ranking list subject to the condition of verifying the requirements and the educational qualifications stated, as indicated in Art. 7 of this call for applications.

The educational qualifications gained at an Italian University or University Institute or gained at a foreign University or University Institute of equal standing are assessed by the selection Committee that reserves the right to request possible supplementary documents/information.

The list of the 24 successful candidates will be published, together with a reserve list, on the web-site of the Scuola Superiore Sant'Anna ([www.santannapisa.it](http://www.santannapisa.it)), section Advanced Education and notified by e-mail exclusively to the persons who will be admitted to the Summer School.

Successful applicants citizens of non-EU member states and not resident in Italy, are strongly advised to immediately contact the Italian Embassy or consular authorities in their country of residence (please see: <https://www.esteri.it/mae/en/servizi/stranieri/>) in order to apply for a visa.

The Scuola Superiore Sant'Anna cannot be held responsible for expenses incurred by selected applicants if the Summer School is cancelled because the minimum number of participants (12) is not reached.

### Art. 9 - Enrolment fee and method of payment

The Summer School enrolment fee amounts to € 400,00 (four hundred). It includes: attendance to all the lessons, lectures' handouts and the canteen facility (lunch and dinner) during the 10 Summer School days (including the Technical Trip and the International Workshop).

Any other expense – such as visa, accommodation and travel costs, etc. – is to be covered by the participants.

**The first fourteen (14) eligible students** in the ranking list, based on the criteria described in Art. 8, will benefit of a **reduced fee of € 260,00** (two-hundred sixty) and **free accommodation**.

The accommodation consists in a double room for 13 nights (from Sunday 8<sup>th</sup> September to Saturday 21<sup>th</sup> September) in an apartment in a residence in the town of Pisa.

Additional reduced fee or full waiving of the enrolment fee or free accommodation might be available; applicants will be informed in due time. The ranking list will be used to assign the potentially additional resources.

No profits will be made through the present Summer School. Any potential revenue, made through the enrolment fees, will be totally reinvested in the following year edition of the Summer School.

Payment has to be made through bank transfer to the following bank account:

Scuola Superiore Sant'Anna, UNICREDIT BANCA S.p.A., branch of Pisa, P.za Garibaldi n. 1, IBAN code IT 32 O 02008 14006 000401272765; BIC/SWIFT: UNCRITM1G12, Description of payment: *“Participant Name and Surname/Summer School DIGITAL WATER”*.

The enrolment fee is individual and is to be borne exclusively by the participants (in accordance with the provisions envisaged in Art. 16-quinquies of Legislative Decree No. 502/92, as subsequently amended).

Pursuant to Art. 9, paragraph 2 of Legislative Decree No. 68/2012 the Institution grants total exemption regarding payment of the enrolment fee in the case of students with a disability, acknowledged to be equal to or greater than sixty-six percent, in accordance with Art. 3, paragraph 1 of Law No. 104/1992, and applies a 1.5% reduction for every percentage point of disability in the case of students who have been acknowledged a disability of less than sixty-six percent. A student that intends to take advantage of the exemption or the reduction is required to attach an appropriate certificate to the online application.

A candidate forfeits the right to be refunded the sum paid as attendance fee to the Summer School whenever waives attendance of the Summer School after having expressed his/her willingness to accept.

The fees already paid will be refunded if the Summer School is not initiated because the minimum number of participants fails to be reached.

### Art. 10 - Acceptance procedure

Successful candidates will be notified by e-mail with an admission notice. Successful candidates wishing to attend the Summer School are required to confirm their attendance within the deadline and in accordance with the procedures indicated in the admission notice, under penalty of exclusion, by transmitting the following documents to the U.O. Alta Formazione of the Scuola Superiore Sant'Anna:

- signed confirmation of attendance;
- a scanned/electronic copy of the payment of the enrolment fee.

### **Art. 11 - Educational Qualification issued**

At the end of the Summer School, the Scuola Superiore Sant'Anna will issue a certificate of attendance with value to the extent permitted by law, and with the details of the ECTS obtained by the students who attended at least 75% of the whole Summer School programme, and passed the assessment tests foreseen and are up-to-date with the payment of the enrolment fee.

### **Art. 12 - Person responsible for the selection procedure, personal data processing and prevention of corruption measures**

Under the art. 5 of the Act n. 241/90 and ff.mm., the person in charge of the competition procedure is Mrs. Elena Cambi, Head of the U.O. Higher Education - Sant'Anna School of Advanced Studies - Via Maffi 27, 56127 Pisa - tel. 050/882645 - fax 050/882633 - e-mail: [altaformazione@santannapisa.it](mailto:altaformazione@santannapisa.it).

Sant'Anna School of Advanced Studies (hereinafter the "School"), represented by the Rector, as Data Controller, under the article 13 of the EU General Data Protection Regulation n. 679/2016 and under the Italian Legislative Decree 30 June 2003 ("Privacy Code regarding the protection of personal data") with regard to the processing of personal data, and on his behalf, Roberta Chiordi, [roberta.chiordi@santannapisa.it](mailto:roberta.chiordi@santannapisa.it), Head of the UO Alta Formazione will process your data. Please read the privacy statement available [here](#).

The Sant'Anna School of Advanced Studies operates in compliance with the legislation on the prevention of corruption (L.190 / 2012).