

SSAI Advanced Educational Programme in Critical Emergency Medicine

2013-2015



General information

The SSAI Programme in Critical Emergency Medicine is a two-year, post-specialist programme offered by the Scandinavian Society of Anaesthesiology and Intensive Care Medicine (SSAI). After completing the programme, the participants will be awarded the “SSAI Diploma in Critical Emergency Medicine”. The programme language is English.

About critical emergency medicine

Critical emergency medicine is a field of practice based on the knowledge and skills required for the prevention, diagnosis and treatment of critical illness and injury affecting patients of all age groups, regardless of the patients’ location or the number of patients. It encompasses an understanding of the development of pre- and in-hospital critical emergency medical systems and the leadership and management skills necessary for this development.

Critical emergency medicine should not be mistaken for the medical specialty of *emergency medicine* well known from Anglo-Saxon countries. In *critical emergency medicine*, the focus is on patients who have unstable vital signs. In most European health care systems, and certainly in the Scandinavian health care system, anaesthesiologists are involved in the treatment of these patients, including pre-, in- and inter-hospital.

Aims

This programme aims to educate expert practitioners and leaders of critical emergency medicine, practicing critical emergency medicine full time or part time, in the hospital or the pre-hospital setting. The participants will be introduced to the concept of continuous critical evaluation of one’s own practice. They will engage in research and development, as well as quality assurance activities within the domain of critical emergency medicine.

The participants will be introduced to the challenges of working in unfamiliar surroundings and contexts, coping effectively with uncertainty, complexity and stress, both on a clinical and management level.

Organization

A Programme Committee, consisting of at least two members from each of the Nordic countries, coordinates the SSAI Advanced Educational Programme in Critical Emergency Medicine. A Programme Director, who reports to the SSAI Educational Committee, is chosen from the members of the Programme Committee.

Currently, (autumn 2012) the **Programme Committee** consists of:

Name	Function	Affiliation
Leif Rognås	Programme Director Assistant Course Director, Course 3 (DK)	Department of Anaesthesia Viborg Regional Hospital, DK
Doris Østergaard	Course Director, Course 3 (DK) Past Programme Director	Danish Institute for Medical Simulation Herlev Hospital, Copenhagen, DK
Jouni Kurola	Course Director, Course 2 (FIN)	Emergency Medical Services Kuopio University Hospital, FIN
Tom Silfvast	Assistant Course Director, Course 2 (FIN)	Department of anaesthesia and intensive care medicine, Helsinki University Hospital, FIN
Mårten Sandberg	Course Director, Course 1 (N)	The Air Ambulance Department Oslo University Hospital, N
Bård Einar Heradstveit	Assistant Course Director, Course 1 (N)	Department of Anaesthesia Haukeland University Hospital, Bergen, N
Ralph Bolander	Course Director, Course 4 (S)	Emergency- and Diving Medicine AB, Tullinge, S
Bengt Eriksson	Assistant Course Director, Course 4 (S)	Department of Anaesthesiology, Falun Hospital, S
Stephen Sollid	Research Director	Norwegian Air Ambulance Foundation and The Air Ambulance Department Oslo University Hospital, N

The SSAI Educational Committee liaison to the SSAI CREM Programme Committee is [Per Kristian Hyldmo](#).

Programme participants

Suitable candidates for application are primarily younger specialists in anaesthesiology who have a documented interest and experience in critical emergency medicine. Specialists from other specialties may apply, but must have at least two years of experience in anaesthesiology.

There will be a maximum of 24 participants, and the Programme Committee aims to start a new programme every second year. Participants will be selected according to their affiliation, academic merits, clinical and management skills and motivation at the discretion of the Programme Committee.

Applicants must be members of the SSAI (or affiliated members in the case of non-anaesthesiologists).

Pre programme requirements

A considerable level of basic knowledge, skills, and experience is required in order to successfully apply for the programme:

- At a minimum, applicants should have knowledge and skills corresponding to the level of the European Trauma Course (ETC) / Advanced Trauma Life Support (ATLS), Advanced Life Support (ALS), and European Paediatric Life Support (EPLS) courses, and preferably knowledge and skills corresponding to the Prehospital Trauma Life Support (PHTLS) course. Diplomas from these courses are not a requirement.
- It is recommended that the candidates have completed the SSAI course in Advanced Airway Management or have a similar level of knowledge and expertise.
- Pre-hospital experience is desirable.

Content and format

The programme consists of five parts:

1) The four residential courses

The residential courses (held in Norway, Finland, Denmark and Sweden) are three to four days in duration each and include a variety of simulation-based scenarios, hands-on exercises, case-based teaching, mini-lectures, and group discussions.

During each residential course, there will be sessions focusing on research and education. The participants will plan and execute several teaching sessions within critical emergency medicine, and will be required to write reflective reports on two teaching sessions. These reports will be discussed and assessed by an appointed supervisor.

A detailed description of each of the residential courses is provided later in this text.

2) Pre- and post course assignments

A number of distance-learning activities serve as preparation and follow-up for the courses. Completion of the pre- and post course assignments within the given deadlines are a prerequisite for continuing the programme.

3) The research project

Each participant is required to do a research project (in the form of a literature review or an empirical study), which will run through the entire two years of the programme. The Programme Mentor will, if necessary, assist in finding a research supervisor who will help and supervise the participant during the research process. Collaboration between programme participants for the research project is encouraged.

Participants will be introduced to the basic principles of research during the first residential course..

During each of the residential courses, time will be dedicated to the discussion of research related topics, including the discussion of the participant's research projects.

The structure and format of the project report will be similar to a paper in *Acta Anaesthesiologica Scandinavica*. Publication in a peer-reviewed journal is not a requirement, but will be encouraged.

A more detailed description of the research project is provided later in this programme description.

4) Clinical practice

The participant must work at least part-time in critical emergency medicine. This work can be in a University Clinic, a Regional General Hospital, a pre-hospital system (HEMS/ EMS) or a combination. However, at least one month of pre-hospital experience during the programme is mandatory. Combining the pre-hospital experience and the exchange programme is an option.

The head of the department employing the participant during the two year period ("the host department") must sign the *SSAI Programme in Critical Emergency Medicine Contract* to show that he/she accepts having the employee in the programme.

It is important that the participants, before entering the programme, have a written agreement with the host department stating that the participant will be assigned clinical, tutorial, quality control/development and management work relevant to the programme during the two years.

The participants should be allowed time to fulfil the different assignments and tasks required during the programme.

5) Exchange period

The host clinic / department will cooperate with the participant (and, if needed, the Programme Committee) in organizing an exchange programme with a department, clinic or EMS / HEMS in a foreign country, preferably another Nordic country.

The exchange programme may be organized as:

- A direct exchange between two clinics / EMS / HEMS in different countries
- A visit to a foreign clinic / EMS / HEMS (as an observer)
- A position (locum) at a foreign clinic / EMS / HEMS.

The exchange period may be split into shorter periods, but each period should last no less than one week.

The clinics / EMS / HEMS hosting the participant during the exchange programme period should help solving local problems, such as accommodation and temporary certification.

Mentors and supervisors

The participants will have several mentors / supervisors during the programme:

- A **programme mentor** will be assigned to each participant prior to the first residential course. This mentor, who is a member of the Programme Committee, a member of one of the national Course Committees or a former SSAI CREM participant, will oversee the general progress of the participant.
- Participants are responsible for finding a **research supervisor**, although the Programme Committee can assist in the process. The Programme Committee must approve the research supervisor. The research supervisor should have considerable experience in medical research (if possible at the level of a PhD), preferably within the field of critical emergency medicine.
- A **supervisor** will be appointed for the two reflective reports following the teaching sessions.

Assessment strategies

A variety of assessment methods will be used to identify the learning needs, support the learning process, monitor progress and document the final outcome:

- Structured clinical evaluation will be used for assessing the performance of clinical procedural skills in simulated scenarios.
- The assessment of written assignments, as well as of teaching sessions and on-course presentations, will be used for documenting reflections on practice, teaching and research activities.
- A portfolio will serve as a tool for the collection of documentation of the learning process during the course. This portfolio will include documentation of course participation and learning activities between courses. The portfolio is provided in a separate text.

Certification

The programme committee will grant the participants a *SSAI Diploma in Critical Emergency Medicine* on the following conditions:

1. Attendance of all four residential courses and passing whatever tests are included in those
2. Approval of all pre-, inter- and post- course assignments
3. Approval of a research project
4. Completion of two years of the clinical practice programme
5. Completion of one month in an exchange programme

The Programme Committee will manage deviation from these requirements

Economy

- The SSAI Educational Committee regulates the economy of the SSAI Programme in Critical Emergency Medicine, and the programme is self-sustained and not for profit.
- The total cost of participating in the programme amounts to approximately **9000 €**, travel expenses related to the Residential Courses excluded. [The Programme Committee reserves the right to adjust the amount if necessary.](#)

The application

The application must contain the following elements:

- A cover letter, describing your motivation for applying
- A CV (with a publication list) focusing on activities relevant for the programme
- A plan for the clinical work during the two years in the programme
- An outline of a proposed SSAI CREM Research Project
- A signed application form (can be found on www.ssai.info)
- The signed SSAI CREM contract (can be found on www.ssai.info)

All documents should be put together in **one single pdf file**.

The name of the file should clearly state the name of the applicant.

The application should be sent to ssai.crem@gmail.com

COURSE 1:

Programme introduction and pre-hospital critical emergency medicine

Oslo

Aim

- To give an introduction to the programme
- To introduce the participants to the Emergency Medical Services in the Nordic countries
- To enable course participants to apply, discuss and reflect on core knowledge and skills in pre-hospital critical emergency medicine under normal and extreme conditions



Learning objectives

After this course the participant will be able to:

- Describe, discuss and reflect on the Emergency Medical Services in the Nordic countries
- Deliver high quality, preferably evidence based, care during pre-hospital emergencies
- Describe and discuss the assessment and treatment of the acutely ill or critically injured patients according to standard procedures and clinical guidelines
- Analyze and reflect on the current guidelines for pre-hospital treatment
- Demonstrate high-quality decision making in the pre-hospital setting

Preparation for the course

The participant should update their knowledge and technical skills according to the pre-programme requirements and complete the two pre-course assignments describe below.

Assignment 1.1

Prepare a **30-minute oral presentation** of the Emergency Medical System (EMS) in your country focusing on

- Organisation
- Staffing, education and training
- Results and performance (Are there any research or quality control work published from the EMS in question? How does this compare to what is known from other EMS?)
- Strengths, challenges and areas in need of further development

The participants from each country will collaborate in completing this assignment.

All participants from each country must participate in preparing the presentation!
The presentations will form the basis for course discussions facilitated by faculty.

Assignment 1.2

Prepare an **evidence-based oral presentation** (15 minutes) on an assigned pre-hospital critical emergency medicine topic. **The participants will work individually in solving this assignment.**

Each participant will, well ahead of the first Residential Course, be assigned one of five topics by the Course Faculty. During the course, each participant will deliver their presentation to a group of four peers (each having prepared a presentation of different topics). The presentation will be moderated and evaluated by a member of faculty.

Deadlines:

Assignment 1.1 must be submitted to the Course Director [Mårten Sandberg](#) at least **three weeks** before the start of the course and **must be approved** before the start of the course.

Course content and format

The content of this course will include:

- Introduction of participants, Course Faculty and Programme Committee
- Introduction to the programme and the course
- Presentation and discussion of the pre-course assignments
- Work-shops and lectures
- Case-presentations, skill-stations, small- and full- scale simulations (in- as well as outdoors)
- Introduction to research and the research project
- Introduction to the making of a reflective teaching report
- Teambuilding activities
- Introduction to Course 2



Assessment

Assessment of learning outcome will include:

- Evaluation of the presentations of the pre-course assignments
- Structured observation during skill-stations and simulations

Follow-up

Follow-up on this course will include:

- Submit a revised research plan to the Research Director [Stephen Sollid](#) **no later than one month** after Course 1
- Send a reflective report on the teaching / presentation given during Course 1 (the presentation of pre-course assignment 1.2) to [Doris Østergaard](#) **no later than one month** after Course 1
- A personal development plan for the clinical training and the exchange programme must be prepared in collaboration with the Programme Mentor **no later than onemonth** after the first course.

Suggested literature

- The ATLS, ALS, EPLS and PHTLS curricula or corresponding literature
- ILCOR Resuscitation Guidelines 2010, available at www.erc.edu
- Rosen's Emergency Medicine, 7th edition

Further literature and references will be posted on the programme's [website](#)

COURSE 2: Emergency dispatch and advanced critical emergency medicine Kuopio

Aim

- To introduce the participants to the different emergency medical dispatch systems in the Nordic countries
- To introduce the participants to the principles of communication systems, their use and limitations
- To introduce the participants to different in-hospital critical emergency medical systems in the Nordic countries
- To increase the participants' level of theoretical knowledge, clinical skills and leadership and management capabilities under increasingly complex pre-hospital and in-hospital conditions.
- To enable the participants to reflect upon their own performance as well as that of their team and their own organisation.



Learning objectives

After this course the participant will be able to:

- Describe, discuss and reflect on the emergency medical dispatch systems in the Nordic countries
- Describe and discuss the principles of communication systems, their use and limitations
- Describe, discuss and reflect on different in-hospital critical emergency medical systems
- Provide high quality care, both as team member and team leader in complex pre-hospital and in-hospital conditions.
- Analyze and reflect on their own performance as well as the performance of the team



Preparation for the course

The participants from each country will collaborate in completing assignments 2.1 and 2.2:

Assignment 2.2

Prepare a **30-minute oral presentation** of the emergency medical dispatch system in your own country focusing on

- Organisation
- Staffing
- Training
- Results and performance (Are there any research or quality control work published from the emergency medical dispatch system in question? How does this compare to what is known from other systems?)
- Strengths, challenges and areas in need of further development

Assignment 2.2

Make a **30-minute oral presentation** describing and discussing how the in-hospital critical emergency medical systems typically work in their country focusing on

- Triage system
- Emergency Department staffing
- Organisation of trauma care
- Organisation of the treatment of the critically unstable, medical patient in the Emergency Department.
- Results and performance (Are there any research or quality control work published from the in-hospital critical emergency medical system in question? How does this compare to what is known from other systems?)
- Strengths, challenges and areas in need of further development

The presentations will form the basis for course discussions facilitated by members of the faculty.

The participants will work individually in solving the next assignment (2.3):

Assignment 2.3

Prepare an **oral presentation** on the progress of your research project. The projects will be discussed in small groups, facilitated by experienced researchers.

Deadlines:

Submit a revised research plan to Research Director [Stephen Sollid](#) no **later than one month** after Course 1.

Pre-course assignment 2.1 and 2.2 must be submitted to the Course Director [Jouni Kurola](#) **at least three weeks** before the start of Course 2 and **must be approved** before the start of Course 2.

Course content and format:

The content of this course will include:

- Workshops, case-based teaching, mini-lectures, and group discussions
- Out- and indoor, full-scale simulation-based scenarios at the [Emergency Services College](#) training grounds in Kuopio
- Presentation and evaluation of the pre-course assignments
- Lectures and group discussions on teaching and research
- Teambuilding activities
- Introduction to Course 3



Assessment

Assessment of learning outcomes will include:

- Peer review and facilitator evaluation during discussions, work-shops and presentations of the pre-course assignments
- Structured observation during simulations

Follow-up

Follow-up on this course will include:

- Adjusting the personal development plan
- Adjusting the research plan, if needed. Submission of a revised research plan to Research Director [Stephen Sollid](#) **no later than one month** after course 2.

Suggested literature

Relevant literature and up-to date references will be posted on the programme's [website](#).

COURSE 3: Critical decision making Copenhagen

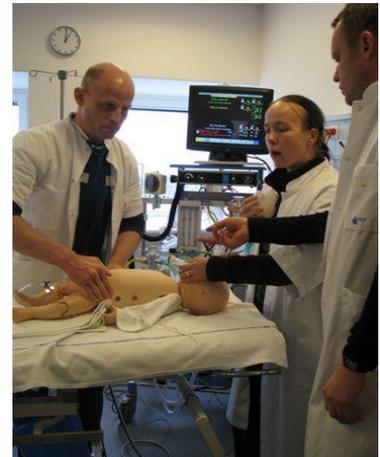
Aims

- To focus on decision making in the management of patients and situations characterized by uncertainty and ambiguity.
- To teach resource management knowledge and skills used in complex situations.

Learning objectives

After this course the participant will be able to:

- Perform high-quality critical decision making in emergency situations, e.g. assessment and treatment of the critically ill or injured patient in different settings with more than one patient
- Take appropriate safety measures for the patient as well as staff
- Demonstrate Crew Resource Management (CRM) skills, acting appropriately as a team member as well as team leader, using sufficient briefing and debriefing techniques and demonstrating knowledge of human factors and their importance for patient safety
- Reflect and analyze on both individual and team performance
- Discuss and analyze situations where deviation from standard procedures and guidelines will be appropriate or necessary
- Describe and discuss how to manage various ethical, ethnic and legal challenges and dilemmas that influences decision making in emergency situations
- Describe and discuss the role, tasks, and responsibilities of different participants in critical emergency medicine and the communication between them
- Demonstrate effective communications skills related to patients, relatives, bystanders, and the press
- Apply metacognition skills on individual and team performance, clinical practice, critical decision making and CRM – performance



Preparation for the course

Prior to course 3, the participants will complete the following two assignments:

Assignment 3.1

Write a literature review of a designated critical decision making topic. The topic will be announced well ahead of the deadline. During the course, all participants will present the results of their review as a poster.

Assignment 3.2

Prepare an oral presentation on the progress of your research project. The presentations will be discussed in small groups with experienced researchers as facilitators.

Deadlines:

Submit a revised research plan to Research Director [Stephen Sollid](#) **no later than one month** after Course 2.

Pre-course assignment 3.1 must be submitted to Course Director [Doris Østergaard](#) **at least four weeks** before the start of Course 3, and **must be approved** before the start of Course 3.

Course content and format

The content of this course will include:

- Introduction to full scale simulation
- Full scale simulation (e.g., airway management, CPR, trauma to children, more complicated patients with several diagnoses, multiple patients) at [The Danish Institute for Medical Simulation](#)
- Simulated patients scenarios focusing on communication and ethical dilemmas
- Mini-lectures by participants and instructors
- Poster sessions
- Group discussions
- Lectures on special issues (e.g., CRM, trauma to children, meta-cognition)
- Feedback and debriefing skills, including how to debrief the team in your own organization
- Introduction to course 4
- Further development of teaching and research skills



Assessment

The assessment of the learning outcomes will include:

- Evaluation of critical decision making and CRM skills during the simulations
- A self assessment tool used after the simulation and debriefing
- Evaluation of the pre-course assignments

Follow-up

Follow-up on this course will include:

- Adjusting the personal development plan according to feed-back during the course
- Preparing and executing an educational session on a critical emergency medicine topic of your own choice, in a setting of your own choice, and writing a reflective report on that topic. The report should be sent to [Doris Østergaard](#) **no later than three months** after the end of Course 3. Approval of the report is **mandatory** before entering Course 4.

Literature

- Recommended literature and references will be posted on the programme's [website](#)

COURSE 4: Leadership and management Stockholm

Aim

- for the participant to obtain specific leadership and management skills, focusing on large-scale events and disasters.
- to focus on organization in a broad sense, including the organization of critical emergency medicine in Nordic countries and disaster medicine in a wider perspective.
- to emphasize the role of the critical emergency medicine expert as a consultant, providing advice to local, regional and national organizations concerning the development of systems for the management of critical emergency patients pre-, in- and inter-hospital.



Learning objectives

After this course the participant will be able to:

- Describe and discuss the various regional, national, and international systems of organizing EMS and disaster medicine and formulate strategies for the development and evaluation of this area.
- Describe, discuss and analyze the role, tasks, and responsibilities of a medical director / senior medical officer in various systems, including:
 - Qualifications needed
 - Challenges faced
 - Different leadership strategies towards staff, peers and superiors.
- Manage conflict resolutions and perform operative and normative leadership.
- Formulate strategies for ensuring practice according to best evidence and implement change within one's own area of responsibility.
- Fulfil, in different complex disaster scenarios, the roles of:
 - Chief medical officer (pre-hospital)
 - Triage officer (pre-hospital)
 - Designated duty officer (in dispatch)
 - Designated duty officer (in-hospital)
 - Chief medical officer (in-hospital)
 - Staff member (in-hospital)
- Analyze and reflect on the different roles mentioned above.

- Reflect on one's own performance during large-scale disaster exercises, for example by using metacognition as introduced in Course 3.
- Discuss and reflect on the meaning of adequate medical treatment in situations with limited resources.
- Plan, execute and evaluate pre- and in- hospital disaster exercises of different types and sizes.

Preparation for the course

In preparation for the course, the following four assignments must be completed:

Assignment 4.1:

Perform a management audit in a part of your own organization.

Assignment 4.2:

Attend, describe and analyze a full scale, pre-hospital disaster exercise.

Assignment 4.3:

Prepare an oral presentation of one of the KAMEDO-reports from a large, real-life disaster. The participants will be divided into groups, and each group will analyze a report from a recent international disaster, focusing on different aspects of leadership, management and command.

Assignment 4.4:

Write an abstract of maximum 300 words on your research project and send it to Research Director [Stephen Sollid](#) at least two months before the course.

Prepare a 10-min oral presentation of your abstract. The abstracts will be discussed in small groups with experienced researchers as facilitators and your peers as opponents.

The reading of relevant core articles and other leadership and management literature is recommended.

A suggestion of relevant reading will be posted on the programme's [website](#)

Deadlines:

The reflective teaching report from course 3 should be sent to [Doris Østergaard](#) **no later than three months** after the end of course 3.

Assignments **4.1** and **4.2** must be submitted to Course Director [Ralph Bolander](#) **at least four weeks** before the start of Course 4.

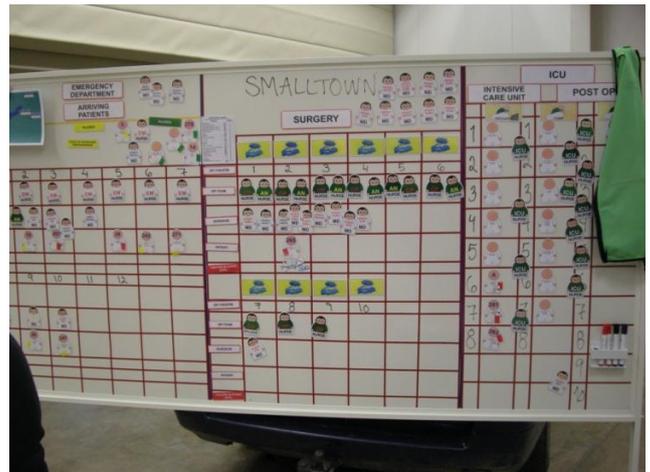
Assignments **4.4** (the abstract) must be sent to Research Director [Stephen Sollid](#) **at least eight weeks** before the start of Course 4.

All these assignments **must be approved** before entering Course 4.

Course content and format

The content of this course will include:

- Presentation and discussion of the pre-course assignments.
- Workshops on leadership and development of systems and organizations.
- Mini-lectures on different leadership and management topics.
- Mini-lecture on how to plan and execute a pre-hospital disaster exercise.
- “Semi-full scale” simulation exercises in disaster management.
- Lectures and work-shops focusing on the completion of the participants research project.



Assessment

Assessment of the learning outcome will include:

- Evaluation of the pre-course assignments
- Evaluation of the presentations during the course
- Evaluation of the participants performance during the exercises

Follow-up

Follow-up on this course will include:

- Completing the research project

The research project must be submitted to the Programme Committee at ssai.crem@gmail.com **no later than two years after enrolment in the programme**. The research supervisor must approve the project before submitting it to the Programme Committee.

A final approval of the research project by both the research supervisor and the designated reviewer is mandatory to receive the *SSAI Certificate in Critical Emergency Medicine*.

- Participating in the discussions and the evaluation of the programme on the programme's [website](#).

Literature

- The KAMEDO-report: "[The Terror Attack on Bali 2002](#)"
- The KAMEDO-report: "[The Terror Attacks in Madrid, Spain, 2004](#)"
- The KAMEDO-report: "[The 2004 tsunami disaster in Asia](#)".

Suggested literature also includes:

- [Henry Mintzberg "The Rise and Fall of Strategic Planning"](#)
- [Roger Fisher "Getting to YES"](#)
- [Jan Carlzon "Moments of Truth" \(1987\)](#)

Relevant literature and references will also be posted on the programme's [website](#).

The research project

Aim

The aim of the project is to support the development of academic critical emergency medicine through the preparation of the participants for the role of a researcher.

Learning objectives:

After this project, participants will be able to:

- Conduct a systematic literature search and critically appraise scientific articles
- Design a research project and write a research plan
- Deliver an oral presentation on a research project
- Write a research report in the format of a scientific article

Content and format

The research project will run through the entire programme and includes a session at each of the four residential courses. At these interactive sessions, there will be a few overview presentations of basic research principles. However, participants will mostly be working in groups on their own research plans and projects, facilitated by experienced researchers.

The research project can be a systematic review of the literature or an empirical study.

Participants are encouraged to collaborate with others on their research plans, including other participants in this programme or local colleagues. However, it is pivotal that each participant makes a major contribution during the entire research process.

Mentors and supervisors

The participants will be appointed a Programme Mentor from the Programme Committee and a research supervisor. The Programme Mentor will help in case of problems finding a **Research Supervisor**. The research supervisor must have research experience and -qualifications, preferably at the level of a PhD, or at least have a significant research portfolio.

Before applying:

When applying for the Programme, applicants are required to present an outline of a suggested research project. This outline will be reviewed as part of the selection process, and – if the applicant is accepted – further discussed and reviewed at the first Residential Course.

Research session 1 (four hours during Residential Course 1)

This session is an introduction to the research project. As preparation for this session, participants are advised to refresh their knowledge of the basic principles of scientific research and to review articles on research in emergency medicine.

The topics covered are:

- Introduction to the research project
- Introduction to scientific research
- Critical appraisal of literature
- Getting from idea to problem formulation and research question
- Research approach and methodology
- Writing a research plan

After this session, the participants are encouraged to attend local courses on systematic literature search, research methods and statistics according to their own needs.

After the first residential course, the participants will have to find a research supervisor to facilitate and aid during the research project.

They will then write a research plan. **The Research Supervisor and the Research Director must approve the research plan before Course 2.**

Research session 2 (four hours during Residential Course 2)

In this session we further discuss the choice of research design and methodology. We will also discuss the participants' projects in small groups.

Finally we will address the ethical issues of doing research in emergency medicine.

The session contains the following topics:

- Discussion of research plans
- More on research design and methods
- Ethics in emergency medicine research

Research session 3 (four hours during Residential Course 3)

During this session, participants will discuss the progress of their research projects. In addition, we will prepare participants for their future oral presentations and the writing of the scientific paper.

Topics covered include:

- Discussion of research projects
- Principles of oral presentations and the role as opponent
- Principles of academic writing and the role as reviewer

Research session 4 (four hours during Residential Course 4)

As preparation for this course participants are requested to send an abstract of maximum 300 words to the Research Director [Stephen Sollid](#) at least two months before the course.

The session itself is dedicated to an oral presentation of the participants' research projects. The projects might not be finished; however, participants should be able to make a presentation within the topic of their project. Presentations will take place in small groups. The duration of the individual presentations is 10 min + 10 min for discussion.

The other participants in each group will serve as opponents and are requested to formulate a minimum of three questions each to each of the presentations. The facilitator will assess each participant's presentation regarding content, format, oral presentation, and response to the opponents' questions. The facilitator will also give feedback to the opponent group about the appropriateness of their questions.

The scientific paper

The paper should be prepared according to the [author guidelines of Acta Anaesthesiologica Scandinavica](#).

Assessment

Assessment of the learning outcomes will include:

- Continuous assessment of the progress of the research project during the programme through the pre-course assignments, the presentations and the discussions during the research sessions
- The Programme Committee will appoint a reviewer to each paper (the reviewer may be, but does not have to be, the same person as the participant's Programme Mentor).

The reviewer will, together with the research supervisor, assess the paper according to standard journal review criteria and make a pass/fail decision.

Suggested literature

Some relevant literature references will be uploaded to the programme's [website](#).