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**THE SAHLGRENSKA ACADEMY**
**INSTITUTE OF MEDICINE**

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# Announcement - scholarship at undergraduate/advanced level

The Department of Rheumatology and Inflammation Research, Institute of Medicine, hereby announces a vacant scholarship at undergraduate/advanced level in research subject: **The functional role of Staphylococcus aureus extracellular vesicles**.

## Training plan

**Subject**: The functional role of Staphylococcus aureus extracellular vesicles

Background: Extracellular vesicles (EVs) are spherical membrane-bound structures secreted by both gram-negative and gram-positive bacterium. EVs contain nucleic acids, enzymes, proteins, lipids and toxins. They are involved in the transport of proteins, virulence factors, or in some bacterium DNA to other hosts. They also contribute to biofilm formation and thus are very robust to deal with existing antibiotic regimes in life-threatening infections.[1] *Staphylococcus aureus* is a gram-positive bacteria involved in causing skin infections and septic arthritis. *Staphylococcus aureus* which is responsible for causing septic arthritis has been found to have a wide range of virulence factors (TSST-1, Clfs, Cna, Lpp, etc.)[2] which can cause infection.

**Purpose**: Since *S. aureus* infection has shown to be pathogenic, we would like to study the functional role of S aureus induced EVs in both *in vitro* and *in vivo*.

**Method**: The student will learn both *in vitro* and *in vivo* techniques (mouse model) such as extraction of EVs, Protein quantification, stimulation experiments, Immunohistochemistry, Electron microscopy and the animal models. The project will be carried at the Dept. of Rheumatology & Inflammation, University of Gothenburg.

**Time plan:** The study period is between 2021-03-01 and 2021-06-30 (four months) and the successful candidate can expand their knowledge in the above research projects.

**Learning outcome:** At the end of training period, the student will master the methods for extraction of Evs, protein quntification, splenocyte preparation and stimulation, ELISA and animal models for bacterial component induced arthritis.

**Period**
2021-03-01 to 2021-06-30.

**Financing**
1 payments of 48 000 SEK. A total of 48 000 SEK for the whole period.

If you require any further information, please contact supervisor Tao Jin, 031-3429710, tao.jin@rheuma.gu.se .

**Application**
To apply please fill out the form “Scholarship application” and send it to Tao Jin, 031-3429710, tao.jin@rheuma.gu.se.

To be eligible for a scholarship you must be a registered student at undergraduate or advanced level at the University of Gothenburg, other Swedish university or an international university with which the University of Gothenburg has a collaboration agreement.

Please attach a copy of your registration certificate with your application. The certificate must demonstrate that you are a registered student throughout the scholarship period.

Closing date is 2021-02-26.