

To: Cooperation Committee (SU) and intranet

Confidential: no

From: The Secretariat

Date: October 2012

Copy to:

J.no. GEUS: 014-00193

Re: Guidelines for scientific evaluation of senior researchers and senior advisors at GEUS

These guidelines apply for scientific evaluations of applicants for positions as senior researchers and senior advisors at GEUS, advertised in accordance with the Circular on Job Structure for Academic Staff at the Geological Survey of Denmark and Greenland (GEUS, 2010). With the necessary adaptations, these guidelines also apply for employees on transitional schemes in accordance with the circular mentioned above.

NB! With regard to formal qualification requirements, see the relevant circular (Circular on Job Structure for Academic Staff at the Geological Survey of Denmark and Greenland (GEUS, 2010)). The circular is available in English on the [GEUS intranet](#)

A. SENIOR RESEARCHER

A.1. Qualification requirements pursuant to Circular on Job Structure for Academic Staff at the Geological Survey of Denmark and Greenland.

The scientific evaluation committee is to decide whether the individual applicant is qualified at senior-researcher level, corresponding to associate-professor level at institutes of higher education, and therefore has documented scientific production at international level. This qualification requirement can be satisfied through employment as a researcher, but also in some other way, e.g. employment as an assistant professor at an institute of higher education, or employment with significant research content within an area of commerce towards which the research is aimed.

The applicant should have extensive research experience (including sector-specific) corresponding to PhD degree/level and a total of at least 6.5 years' research experience (ordinary 3-year PhD programme followed by at least 3.5 years' postdoc employment and/or researcher or other corresponding employment). A Danish degree at doctor level (e.g. dr.scient) or a corresponding foreign degree or other scientific work at similar level qualifies as well.

The research qualifications of the applicant will also be taken into consideration. The Committee may also consider other academic qualifications relevant for the position in question.

A.2. General criteria for scientific evaluation of senior researchers at GEUS

GEUS considers it important that the applicant can document *research, sector-specific and communication* qualifications at senior-researcher level, and in this context the scientific evaluation committee will assess whether the individual applicant has a *satisfactory number of the following qualifications*.

Research qualifications

- Published scientific articles in national and international journals with a referee scheme,
- Experience in national and international research and quality-assurance of research (e.g. review work), and
- Demonstrated ability to take part in developing research within the specialist area and to inspire work in research groups.

GEUS also considers the following important:

- Experience in independent identification of research needs and implementation of new research projects.
- Experience from national and international research collaborations such as research postings abroad and/or international experience in collaborative research work between Danish institutions and institutions in other countries.

Sector-specific qualifications

- Management/participation in larger national and international, sector-relevant research projects with several institutions.
- Project management, including planning and coordination of sector-specific projects such as analysis and monitoring projects, geological mapping and assistance projects.
- Project management, including planning, development and coordination of both strategic and application-oriented research projects.
- Development and participation in networks within the specialist area.
- Development of methodologies, including models, laboratory analysis methods and field measurement methods, analysis techniques, quality control, etc.
- Authority tasks and sector-specific consultancy, e.g. in connection with procuring a knowledge base for administrative or political decisions.

Communication qualifications

- Communication of research results through lectures and posters at national and international scientific conferences and meetings
- Communication of research results and general communication to politicians, administrators and the general public through guidelines and elucidation reports as well as teaching and information materials.
- Specialist supervision and inspiration of PhD students, other students, other researchers as well as technicians.
- Teaching and lecture activities.

Employment as a senior researcher requires that the applicant has the research qualifications as well as a significant number of the sector-specific and communication qualifications.

A.3. Indicative quantitative guidelines for scientific evaluation of senior researchers at GEUS

The scientific evaluation is based on the general criteria listed above and the following quantitative guidelines are merely indicative for the scientific evaluation committee and for applicants for a position as a senior researcher at GEUS.

- The evaluation committee should carry out a holistic assessment of the applicant's research production in which not just the number of articles published is considered, but also the academic quality, weight and relevance for GEUS.
- There should be reasonable cohesion between the number of publications and the number of years the applicant has been active in the research community. Publications in collaboration with others are desirable, as this reflects the applicant's experience and abilities in working in research groups. There should also be a certain production of other items than international articles, such as reports, maps, guidelines or teaching materials. Participation in international specialist meetings, documented in abstracts, should also be considered. There should be first authorships and co-authorships.

Annex 1 includes examples which illustrate candidates whose scientific publications do qualify them as senior researchers as well as examples of candidates whose publications do not qualify them as senior researchers

B. SENIOR ADVISORS

B.1. Qualification requirements pursuant to *Cirkulære om stillingsstruktur for videnskabeligt personale ved GEUS:*

The scientific evaluation committee is to decide whether the individual applicant is qualified at senior-advisor level. The research qualification requirements should be above PhD level. This qualification requirement can usually be satisfied through employment as a researcher, but also in some other way, e.g. employment as an assistant professor at an institute of higher education, or employment on an important research assignment within an area of commerce towards which the research/consultancy is aimed.

The research qualifications of the applicant as well as other specialist qualifications will also be taken into consideration. The evaluation should place priority on whether the applicant has independently completed important consultancy and communication tasks for authorities, the business community or society in general. For example, this may be acting as the chairman of national and international consultancy/expert fora, or project management of large, interdisciplinary or international projects which form the foundation for consultancy assignments within the public or private sector. Other types of assignment could be development work or larger mapping, monitoring, data collection and data processing assignments.

The applicant should have extensive research/consultancy experience corresponding to PhD degree/level as well as an additional 3.5 years' experience in research and consultancy/development assignments.

B.2 General criteria for scientific evaluation of senior advisors at GEUS

GEUS considers it important that the applicant can document *advisory, research, sector-specific and communication* qualifications at senior-advisor level, and in this context the scientific evaluation committee should assess whether the individual applicant has a *satisfactory number of the following qualifications*.

Advisory and sector-specific qualifications

- Completion of significant research-based advisory and communication assignments for, e.g. the Ministry of the Environment, the Ministry of Business and Growth, the Greenland Government, other public institutions and/or bodies.
- Project management, including planning, development, coordination and management of internal and interdisciplinary monitoring programmes, elucidation projects, assistance projects and commercial consultancy projects.

Research qualifications

- Published scientific articles in national and international journals.
- Experience in international and Danish research within the relevant specialist areas.

Communication qualifications

Priority is on experience in several of the following:

- Communication of results of monitoring, consultancy, elucidation and research activities, including publication in journals, reports and guidelines.
- Communication of technical results and data as well as general communication to politicians, administrators and the general public through guidelines and elucidation reports as well as teaching and information materials.
- Specialist supervision and inspiration of PhD students, other students as well as other staff.
- Teaching and lecture activities.

GEUS also considers the following important:

- Collection, processing, analysis and modelling of large amounts of geotechnical data and information.
- Participation in international collaboration and/or consultancy and advisory assignments abroad.
- Development and participation in networks within the specialist area.
- Preparation of budgets, negotiation of contracts, and accounts follow-up.
- Preparation of applications and other procurement of external funding.
- Laboratory or other technical management.

Employment as a senior advisor requires that the applicant has the research qualifications as a whole, as well as a significant number of the sector-specific and communication qualifications.

B.3 Indicative quantitative guidelines for scientific evaluation of senior advisors at GEUS

The scientific evaluation is based on the general criteria listed above and the following quantitative guidelines are merely indicative for the scientific evaluation committee and for applicants for a position as a senior advisor at GEUS.

- Experience in conducting and managing larger international and national consultancy, advisory and information assignments. If there is no PhD degree, the evaluation committee should carry out an overall evaluation of the production by the applicant.
- The evaluation committee should carry out a holistic assessment of the research work in which not just the number of articles published is considered, but also the academic quality, weight and relevance for GEUS.

Annex 2 includes examples which illustrate candidates whose scientific publications do qualify them as senior advisors as well as examples of candidates whose publications do not qualify them as senior advisors.

C. PROCEDURES FOR THE SCIENTIFIC EVALUATION COMMITTEE

An scientific evaluation committee should be set up as soon as possible after issuing the advertisement for the vacant position.

After the closing date for applications, the composition of the evaluation committee is sent to the applicants for consultation.

At the expiry of the deadline for consultation replies, the evaluation committee receives copies of all the applications with annexes as well as a copy of the job advertisement. At the same time a deadline is set for when the committee is to issue its scientific evaluation.

On the basis of the qualification requirements and work tasks mentioned in the job advertisement, and on the basis of the above qualification requirements, the evaluation committee assesses which applicants are considered as qualified for the relevant position. The evaluation committee prepares a written report on whether applicants satisfy the research, sector-specific and communication qualifications and on the basis of this draws up a scientific evaluation of the applicants.

The evaluation committee can distinguish between not qualified and qualified applicants. The evaluation committee **must** use the relevant templates which are available in Danish and English, respectively.

If it is not possible to reach agreement, the majority assessment will prevail. Any statements by the minority must be included in the evaluation.

The scientific evaluation is subject to the regulations on hearing of parties and therefore the evaluation is submitted to the relevant applicant for comment. The evaluation is also confidential and the evaluation committee has a duty of confidentiality.

The applicants who are judged as scientifically qualified go on to the GEUS employment committee. The employment committee assesses the applications received and decides which applicants are to be invited to an interview. The employment committee assesses the applicants' overall qualifications, including personal qualifications, in relation to the job profile and the needs of the department.

See also the other formal procedures for recruitment at GEUS.

Annex 1: Examples 1-5 of evaluation of senior researchers

Example 1: Applicant can be assessed as qualified for a senior-researcher position at GEUS

The example illustrates an internal applicant with a very high research production and level.

Employment and education:

- Eight years ago: MSc, University of Copenhagen
- Four years ago: PhD, University of Copenhagen
- Four years ago to present: Researcher at GEUS

Research qualifications:

Classification as Top journals and Other journals is based on an assessment by the scientific evaluation committee with possible support from ISI (Web of Science) or the bibliometric research indicator.

Papers in international peer-reviewed journals	Number	Of these as first author		Of these as co-author		Of these included in ISI Web of Science
		Top journals	Other journals	Top journals	Other journals	
Part of PhD/pre PhD	6	2	2	1	1	6
Post PhD	9	2	1	2	4	9
Total published	15	4	3	3	5	15
Submitted manuscripts	2	1	1			

- Number of citations on ISI Web of Science: 150
- Publications in the research period were written in collaboration with several research groups, including some outside GEUS, some outside the circle of PhD supervisors, and some as the only GEUS employee.
- Reviewer for five journals

Sector-specific qualifications:

- Has taken part in a large international research project.

Communication qualifications:

Co-supervisor for a PhD student

Conclusion:

The specialist area is extremely relevant with regard to the senior-researcher position. The publications contain many new ideas, are innovative and high quality.

Applicant is assessed as qualified for the senior-researcher position.

Example 2: Applicant can be assessed as qualified for a senior-researcher position at GEUS

The example illustrates an internal applicant who satisfies the requirements with regard to research production and level.

Employment and education:

- Seven years ago: MSc, University of Copenhagen
- Four years ago: PhD, University of Copenhagen
- Four years ago to present: Researcher at GEUS

Research qualifications:

Classification as Top journals and Other journals is based on an assessment by the scientific evaluation committee with possible support from ISI (Web of Science) or the bibliometric research indicator.

Papers in international peer-reviewed journals	Number	Of these as first Author		Of these as co-author		Of these included in ISI Web of Science
		Top journals	Other journals	Top journals	Other journals	
Part of PhD/pre PhD	3	2	1			3
Post PhD	5	2	2		1	5
Total published	8	4	3		1	8
Submitted manuscripts	1	1				

- Number of citations on ISI Web of Science: 30
- Reviewer for three journals

Sector-specific qualifications:

- Daily coordinator of research project from the Danish Council for Strategic Research in close collaboration with the funding recipient, who is a professor at the department.
- Behind the initiative for GEUS to apply to the Danish Council for Independent Research.

Communication qualifications:

- Taken part in several international conferences
- Author of 12 GEUS reports
- Presented results at meetings for Danish specialists

Conclusion:

The specialist area is extremely relevant with regard to the senior-researcher position. The quality of research is evaluated as very thorough and has high quality.

Applicant is assessed as qualified for the senior-researcher position.

Example 3: Applicant can be assessed as qualified for a senior-researcher position at GEUS

The example illustrates an external applicant who, after an initial university career at associate-professor level has been outside the research community for some years and who, for the past five years, has demonstrated considerable research activity and productivity.

Employment and education:

- 20 years ago: MSc, Technical University of Denmark (DTU)
- 17 years ago: PhD, Technical University of Denmark (DTU)
- 17-12 years ago: Researcher/assistant professor, Technical University of Denmark (DTU)
- 12-10 years ago: Associate professor, Technical University of Denmark (DTU)
- 10-5 years ago: Technical Advisor on assistance project in the Third World, Danish International Development Assistance (Danida)
- 5-0 years ago: Research and consulting services, DHI

Research qualifications:

Classification as Top journals and Other journals is based on an assessment by the scientific evaluation committee with possible support from ISI (Web of Science) or the bibliometric research indicator.

Papers in international peer-reviewed journals	Number	Of these as first author		Of these as co-author		Of these included in ISI Web of Science
		Top journals	Other journals	Top journals	Other journals	
Part of PhD/pre PhD	3	2	1			3
DTU, post PhD	11	2	3	3	3	11
Danida	0					
DHI	4	1	1	1	1	4
Total published	18	5	5	4	4	18
Submitted manuscripts	1	1				

- Number of citations on ISI Web of Science: 250
- The publications were written in collaboration with many different research groups.
- Reviewer for eight journals

Sector-specific qualifications:

Extensive project management experience

Communication qualifications:

Active joint organiser of two international scientific conferences (12 and 2 years ago)

Main supervisor for two PhD students and co-supervisor for three (of whom two are current)

Conclusion:

The specialist area is extremely relevant with regard to the senior-researcher position. Strong initiative and innovative, large international network of researchers and practitioners, high-quality research publications, documented as research-active in recent years. Applicant is assessed as qualified for the senior-researcher position.

Example 4: Researcher cannot be assessed as qualified for a senior-researcher position at GEUS

The example illustrates an external applicant who, after an initial university career at associate-professor level has been outside the research community for ten years and who, in this period, has not documented any research activity and who therefore cannot be assessed as currently qualified as a senior researcher.

Employment and education:

- 20 years ago: MSc, Technical University of Denmark (DTU)
- 17 years ago: PhD, Technical University of Denmark (DTU)
- 17-12 years ago: Researcher/assistant professor, Technical University of Denmark (DTU)
- 12-10 years ago: Associate professor, Technical University of Denmark (DTU)
- 10-5 years ago: Technical Advisor on assistance project in the Third World, Danish International Development Assistance (Danida)
- 5-0 years ago: Consulting services, DHI

Research qualifications:

Classification as Top journals and Other journals is based on an assessment by the scientific evaluation committee with possible support from ISI (Web of Science) or the bibliometric research indicator.

Papers in international peer-reviewed journals	Number	Of these as first author		Of these as co-author		Of these included in ISI Web of Science
		Top journals	Other journals	Top journals	Other journals	
Part of PhD/pre PhD	3	2	1			3
DTU, post PhD	11	2	3	3	3	11
Danida	0					
DHI	0					
Total published	14	4	4	3	3	14
Submitted manuscripts						

- Number of citations on ISI Web of Science: 220
- Reviewer for five journals

Sector-specific qualifications:

Extensive project management experience

Communication qualifications:

Active joint organiser of one international scientific conference (12 years ago)

Main supervisor for two PhD students and co-supervisor for one, all completed more than 10 years ago

Conclusion:

The specialist area is extremely relevant with regard to the senior-researcher position. Strong initiative and innovative, large international network of primarily practitioners, high-quality research publications. The applicant is assessed as not qualified due to lack of documented research activity within the past ten years.

Example 5: Applicant cannot be assessed as qualified for a senior-researcher position at GEUS

The example illustrates that, despite many publications and relevant research, the applicant does not qualify as a senior researcher if the publications are primarily during the PhD or linked to it.

Employment and education:

- Seven years ago: MSc, University of Copenhagen
- 3.5 years ago: PhD, University of Copenhagen
- 3.5 years ago to present: Post doc., University of Copenhagen

Research qualifications:

Classification as Top journals and Other journals is based on an assessment by the scientific evaluation committee with possible support from ISI (Web of Science) or the bibliometric research indicator.

Papers in international peer-reviewed journals	Number	Of these as first Author		Of these as co-author		Of these included in ISI Web of Science
		Top journals	Other journals	Top journals	Other journals	
Included in PhD	6	3	1	2		6
Post PhD	3	1		1	1	3
Total published	9	4	1	3	1	9
Submitted manuscripts	2	1			1	

- Number of citations on ISI Web of Science: 55
- The publications written during the Postdoc were in collaboration with different research groups.

Sector-specific qualifications:

Communication qualifications:

Has been a teacher at the University of Copenhagen for three years.

Conclusion:

Relevant research of high quality, but too few publications not linked to the PhD degree. The applicant is assessed a not qualified for the senior-researcher position.

Annex 2: Evaluation of senior advisors examples 1-4**Example 1: Applicant can be assessed as qualified for a senior-advisor position at GEUS**

The example illustrates an internal applicant who, after a career at GEUS has applied for a senior advisor position. During the period of employment, the researcher has conducted a number of project assignments and project management work and documented both research activity and extensive advisory activity and who therefore is assessed as qualified as a senior advisor.

Employment and education:

- 12 years ago: MSc, Technical University of Denmark (DTU)
- 12-9 years ago: Research assistant, GEUS
- 9-6 years ago: PhD, GEUS/DTU
- 6 years ago to present: Researcher, GEUS, maternity leave two years

Advisory and sector-specific qualifications:

Project manager of many large projects with advisory and communication tasks for authorities.

Research qualifications:

Classification as Top journals and Other journals is based on an assessment by the scientific evaluation committee with possible support from ISI (Web of Science) or the bibliometric research indicator.

Papers in international peer-reviewed journals	Number	Of these as first author		Of these as co-author		Of these included in ISI Web of Science
		Top journals	Other journals	Top journals	Other journals	
Part of PhD/pre PhD	3	2	1			3
post PhD	5	1	2	1	1	5
Total published	8	3	3	1	1	8
Submitted manuscripts						

- Number of citations on ISI Web of Science: 29

Communication qualifications:

Has taken part in EU project management and reporting. Has 10 out of 26 reports as first author.

Other (e.g. network development, application for external funding, laboratory management)

Large network and participation in national and international research groups.

Experience with procurement of external funding.

Conclusion:

The specialist area is extremely relevant with regard to the senior advisor position. Strong initiative and broad project background, large international network, high-quality research publications.

Applicant is assessed as qualified for the senior-advisor position.

Example 2: Applicant can be assessed as qualified for a senior-advisor position at GEUS

The example illustrates an external applicant who, after a long career as a consultant in Danish regional government and with consulting engineering companies has long and solid consulting expertise. Although the applicant has been away from the research community for 16 years, in this period the applicant documented research activity and is therefore assessed as qualified as a senior advisor.

Employment and education:

- 20 years ago: MSc, Technical University of Denmark (DTU)
- 20-19 years ago: xx County
- 19-16 years ago: PhD, Aarhus University
- 16-13 years ago: xx and yy Counties
- 13-8 years ago: Rambøll
- 8-4 years ago: Danish geophysics
- Four years ago to present: Orbicon
- Two years ago to present: External associate professor, Aarhus University

Advisory and sector-specific qualifications:

Many years' experience in consultancy within the private and public sectors. Experience in project management from regional government and several consultancy firms.

Research qualifications:

Classification as Top journals and Other journals is based on an assessment by the scientific evaluation committee with possible support from ISI (Web of Science) or the bibliometric research indicator.

Papers in international peer-reviewed journals	Number	Of these as first author		Of these as co-author		Of these included in ISI Web of Science
		Top journals	Other journals	Top journals	Other journals	
Part of PhD/pre PhD	3		3			3
post PhD	8		7		1	8
Total published	11		10		1	11
Submitted manuscripts			1			

- Number of citations on ISI Web of Science: 267

Communication qualifications:

Has been co-author of a published map. Very large number of consultant reports (>60)

Has taught as an external associate professor at Aarhus University for two semesters.

Other (e.g. network development, application for external funding, laboratory management)

Considerable experience with procurement of external funding and extensive network.

Conclusion:

The specialist area is extremely relevant with regard to the senior advisor position. The applicant has an enterprising and broad project manager background and has a large network. The applicant has good research qualifications and has published regularly over the past 16 years. The communication qualifications are of high level. Applicant is assessed as qualified for the senior-advisor position.

Example 3: Applicant cannot be assessed as qualified for a senior-advisor position at GEUS

The example illustrates a researcher who has satisfactory research production, but does not have adequate experience in consultancy and communication work, nor in project management to qualify for a senior-advisor position.

Employment and education:

- 6.5 years ago: MSc, University of Copenhagen
- 3.5 years ago: PhD, University of Copenhagen
- 3.5 years ago to present: Assistant professor, Technical University of Denmark (DTU)

Advisory and sector-specific qualifications:

Research qualifications:

Classification as Top journals and Other journals is based on an assessment by the scientific evaluation committee with possible support from ISI (Web of Science) or the bibliometric research indicator.

Papers in international peer-reviewed journals	Number	Of these as first author		Of these as co-author		Of these included in ISI Web of Science
		Top journals	Other journals	Top journals	Other journals	
Part of PhD/pre PhD	4	3		1		4
Post PhD	3	2		1		3
Total published	7	5		2		7
Submitted manuscripts	1				1	

- Number of citations on ISI Web of Science: 39

Communication qualifications:

3.5 years' teaching experience, participation in interdisciplinary projects and communication of results of these.

Other (e.g. network development, application for external funding, laboratory management)

Conclusion:

The specialist area is extremely relevant with regard to the senior advisor position. The applicant has too little experience in consultancy work and project management to qualify as a senior advisor. The applicant has satisfactory research and communication qualifications.

Applicant is assessed as not qualified for the senior-advisor position.

Example 4: Applicant cannot be assessed as qualified for a senior-advisor position at GEUS

The example illustrates an external applicant with good experience in consultancy and communication work and in project management but does not have adequate research production to qualify for a senior-advisor position.

Employment and education:

- 10 years ago: MSc, Technical University of Denmark (DTU)
- Seven years ago: PhD, Technical University of Denmark (DTU)
- Seven years ago to present: Rambøll consulting engineers

Advisory and sector-specific qualifications:

Six years' experience in consultancy and communication work for authorities, nationally and internationally. Project manager of large commercial consulting projects, including research-based projects.

Research qualifications:

Classification as Top journals and Other journals is based on an assessment by the scientific evaluation committee with possible support from ISI (Web of Science) or the bibliometric research indicator.

Papers in international peer-reviewed journals	Number	Of these as First author		Of these as co-author		Of these included in ISI Web of Science
		Top journals	Other journals	Top journals	Other journals	
Part of PhD/pre PhD	3	2	1	0	0	3
Rambøll, post PhD	2	1	0	1	0	2
Total published	5	3	1	1	0	5
Submitted manuscripts						

- Number of citations on ISI Web of Science: 25

Communication qualifications:

Large network within the specialist area.

Other (e.g. network development, application for external funding, laboratory management)

Considerable experience with procurement of external funding.

Conclusion:

The specialist area is extremely relevant with regard to the senior advisor position. The applicant is very qualified with regard to experience in consultancy and project management. The applicant has too little documented research activity over the past seven years to qualify as a senior advisor.

Applicant is assessed as not qualified for the senior-advisor position.