



MØTEINNKALLING

Instituttstyremøte SM3/24

Tirsdag 26.november 2024, kl. 12-14

V-sak 22/24

Godkjenning av innkalling og dagsorden

Forslag til vedtak: Instituttstyret godkjenner innkalling og dagsorden

V-sak 23/24

Godkjenning av referat fra SM3_2024

Forslag til vedtak: Referat fra styremøte 3_24 godkjennes

Vedlegg: 23/24-1 Referat fra SM3 2024

V-sak 24/24

Budsjett 2025 og langtidsprognose 2026-2029

Forslag til vedtak: «Styret ved ITS er orientert om budsjettforslaget for 2025, og langtidsprognose for 2026-2029. Instituttstyret forutsetter at instituttets økonomi til enhver tid styres i henhold til føringer gitt fra MN-fakultetet og Universitetet i Oslo.»

Vedlegg: 24/24 – 1 Budsjett 2025 og langtidsprognose 2026-2029

O-sak 25/24

Ny periode for instituttstyret 2025-2028

O-sak 26/24

Status pågående prosess lokaler

V-sak 27/24

Kunngjøringstekst stilling som førsteamanuensis innen “cybersikkerhet og sikkerhet av kritiske infrastrukturer”

Forslag til vedtak: “Kunngjøringen av en fast stilling som førsteamanuensis innen cybersikkerhet og sikkerhet i kritiske



UNIVERSITETET I OSLO

infrastrukturer godkjennes. Instituttleder har fullmakt til å endre kunngjøringstekst ved behov”

Vedlegg: 27/24-1 Kunngjøringstekst cybersikkerhet

**V-sak 28/24 Kunngjøringstekst stilling som førsteamanuensis innen
kybernetikk og autonome systemer**

Forslag til vedtak: “Kunngjøringen av en fast stilling som førsteamanuensis innen kybernetikk og autonome systemer godkjennes. Instituttleder har fullmakt til å endre kunngjøringstekst ved behov”

Vedlegg: 28/24- 1 Kunngjøringstekst kybernetikk

O-sak 29/24 HMS

O-sak 30/24 Eventuelt

V-sak 31/24 Innstilling til stilling som instituttleder ved ITS (lukket)

Sakspapir til V-sak 31/24 sendes ut i egen e-post, og er ikke vedlagt dette dokumentet.

Cecilie Rolstad Denby
Instituttleder



Referat fra ITS sitt styremøte SM2/24

Tilstede: Tine Uberg Nærland (IFE), Arild Hemstad(tek/adm), Oskar Vågerö (midlertidig), Paal Engelstad (nestleder), Cecilie Rolstad Denby (instituttleder) og Marit Tronstad (sekretær)

Frafall: Torunn Øvreås (FFI), representanter fra faste vitenskapelige ansatte og studentrepresentanter

Når: Mandag 7.oktober 2024, kl. 09-10

Instituttleder var ikke tilstede under møtet for behandling av sakene V-sak 12/24, V-sak 13/24 og O-sak 14/24.

V-sak 12/24 Godkjenning av innkalling og dagsorden

Vedtak: Instituttstyret godkjenner innkalling og dagsorden, med kommentar.

Kommentar: Påse at det settes av tilstrekkelig tid under møtet til god behandling og diskusjon for samtlige saker.

V-sak 13/24 Godkjenning av referat fra sirkulasjonssak nr. 4 2024

Under behandling av saken ble vedtaket godkjent, mot forbehold om en grundig vurdering av foreslått intervjukomite sin habilitet. Vurderingen er i tråd med gjeldende rutiner og tolkning av habilitetsregelverket ved MN UiO.

Vedtak: Referat fra sirkulasjonssak 4_24 godkjennes.

O-sak 14/24 Status tilsetting instituttleder

Sekretær orienterte om status.

Kommentar: I andre forum er det sedvane at nestleder orienterer ved leders fravær.

O-sak 15/24 Regnskap 2.tertial 2024 med oppdatert prognose



Instituttleder orienterte om regnskapet per andre tertial, og oppdatert årsprognose for 2024.

O-sak 16/24 Status tilsetninger ved ITS

Instituttleder orienterte.

Tine ber om å få tilsendt listen over nytilsatte.

O-sak 17/24 Orientering om opptakstall og studiestart høsten 2024

Instituttleder orienterte

O-sak 18/24 Utredning

Instituttleder orienterte

O-sak 19/24 HMS

Instituttleder orienterte kort om gjennomført HMS-arbeid på ITS

O-sak 18/24 Handlingsplan ARK 2024

Instituttleder orienterte styret om handlingsplan og pågående arbeid

Sak 21/24 Eventuelt

Ingen saker

Budsjett 2025 og langtidsprognose 2026 – 2029

Rapporterende enhet:

1560 ITS

Cecilie Rolstad Denby

Rapportert av:

Cecilie Rolstad Denby, Marit Tronstad

P. Yingram, F. Bremnes

Periode:

2025 - 2029

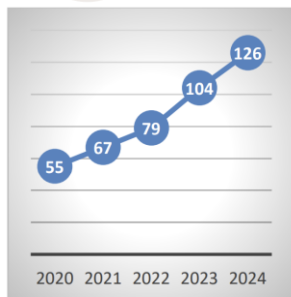
1. Oppsummerende ledelseskommentar

Ved innføring av MNs nye budsjettmodell i 2022 ble ITS sitt budsjett redusert med nærmere 50 %. Instituttet etablerer nå nye utdanningstilbud for å komme i økonomisk balanse. Budsjettmodellen er svært krevende for ITS da inntektene for utdanning utjevnes over en 5-8 årsperiode. ITS sine tidligere oppsparte midler brukes opp i 2024, altså noe senere enn estimert i tidligere prognoser. Langtidsprognosen 2026-2029 viser et betydelig akkumulert underskudd. Prognosen er basert på nåværende studietilbud, og i tillegg en master i helseteknologi med oppstart i 2026, med innfasing 10-15-20 studieplasser frem til 2028. Det er lagt inn to faste vitenskapelige årsverk, samt to 20 % stillinger for å etablere dette studiet. BOA per vitenskapelig årsverk forventes å ligge på et snitt for fakultetet, og studiepoengsproduksjonen tilsvarende, på tross av at ITS nå ikke har bachelorutdanning som gir høy studiepoengsproduksjon. Det planlegges en bachelorutdanning med oppstart 2027, men denne vil inkluderes i utarbeidelse av langtidsprognosen først neste år.

ITS sin virksomhet er basert på teknologi, som krever forsknings- og utdanningslaboratorier med ingeniører. ITS har derfor bedt om en økning i budsjettet på 20 % for å få like vilkår som andre institutter med

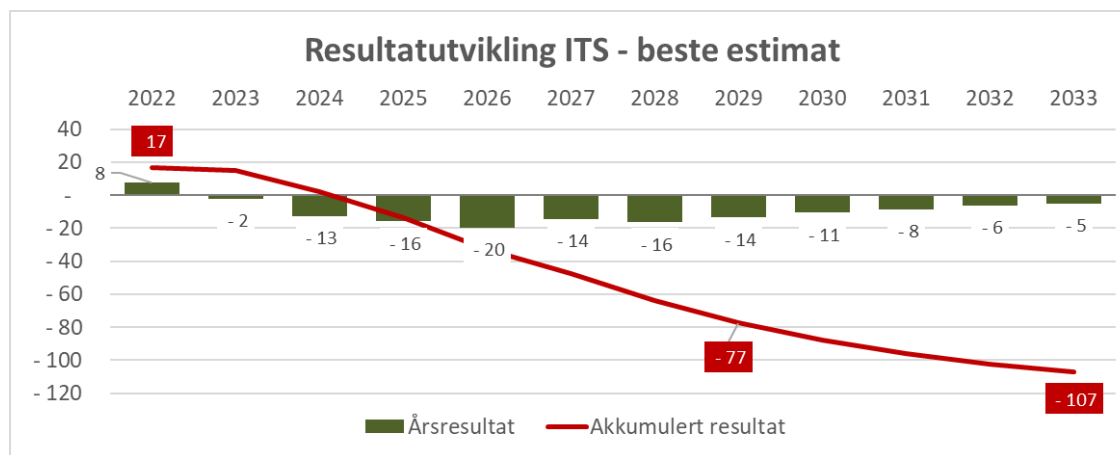
laboratorievirksomhet har. Med denne økningen viser langtidsprognosen et årsresultat i balanse i 2032, og for det øvre estimat vil balanse da nås i 2031, se figur under pkt. 6 Øvrige kommentarer.

ITS har i 2024 mer enn fordoblet antall registrerte studenter siden 2020, og antall registrerte phd studenter har økt betydelig. Studiepoengsproduksjonen er avhengig av god rekruttering, men også god gjennomstrømming. En mulig flytting av ITS sin utdanningsvirksomhet til første og annen etasje i Kristine Bonnevis Hus på Blindern kan bedre både rekruttering og gjennomstrømming, og også tilrettelegge for økt forskningssamarbeide med flere miljøer på Blindern. Resultatene som er oppnådd på Kjeller viser at utdanning med teknologiprofil har et bra potensiale på MN-fakultetet.



	2021	2024
Lønnede PhD stillinger	5	29
Registrerte på PhD program		39
Post docs	0	6

Fig. Antall registrerte studenter i perioden 2020 til 2024.



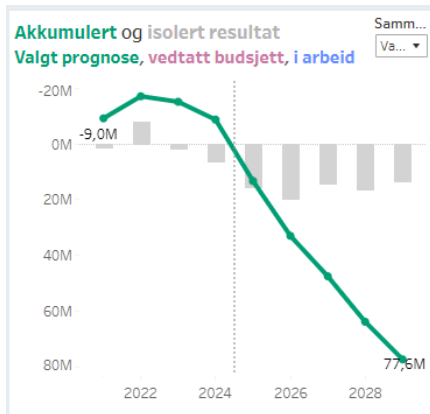
2. Økonomisk plan og utvikling 2025 til 2029

Den økonomiske utviklinga for instituttet i perioden er krevjande, hovudsakleg fordi det å erstatte ei nær halvering av KD inntekt i ny modell gjennom auka aktivitet tar lang tid basert på eksisterande rammevilkår. Det er i all hovudsak på utdanning ein venter auka aktivitet. Det er og ei auke i personalkostnader for å rigge organisasjonen til å ta imot auka aktivitet. Det er betydeleg risiko i den venta produksjonsauken på utdanning.

Utviklinga er positiv med omsyn til redusert årleg meirforbruk i perioden ut over rapporteringsperioden. Samtidig er investeringskostnadane for å ta høgde for auka aktivitet med på å bringe instituttet inn i eit for stort akkumulert meirforbruk.

Smart2	2025	2026	2027	2028	2029	Sum total
110 - Inntekter	-55,597,481	-55,088,250	-58,367,254	-56,470,348	-58,507,000	-284,030,334
120 - Personalkostnader	49,966,397	54,854,075	56,778,977	56,354,784	54,749,785	272,704,018
130 - Driftskostnader	18,756,200	18,942,900	19,358,100	19,788,300	19,975,000	96,820,500
140 - Investeringer	5,500,000	5,500,000	1,500,000	1,500,000	1,500,000	15,500,000
150 - Nettobidrag fra eksterntfinansierte prosjekter	-2,775,200	-4,514,700	-4,754,900	-4,850,300	-4,201,000	-21,096,100
170 - Overført fra i fjor	-2,328,582					-2,328,582
Sum total	13,521,333	19,694,024	14,514,923	16,322,436	13,516,785	77,569,502

3. Bevilgningsfinansiert aktivitet



Regnskap vs langtidsbudsjett bevilgning - klikk på +/- for å drille

	Regnskap 2021	Regnskap 2022	Regnskap 2023	Regnskap 2024	Prognose 2025	Prognose 2026	Prognose 2027	Prognose 2028	Prognose 2029
Inntekter	-45 676 351	-47 861 876	-39 704 035	-28 838 786	-39 979 000	-40 862 000	-41 081 000	-38 754 000	-41 607 000
Personalkostnader	31 148 808	29 917 838	36 588 168	27 042 070	39 594 560	44 285 429	44 324 606	44 342 576	44 425 285
Driftskostnader	12 752 027	13 876 071	13 185 669	11 363 686	17 698 000	17 698 000	17 698 000	17 698 000	17 698 000
Investeringer	4 237 628	443 633	634 065	1 113 672	5 500 000	5 500 000	1 500 000	1 500 000	1 500 000
Nettobidrag fra eksternefinansi..	-1 392 585	-4 196 957	-8 577 780	-4 247 734	-6 963 642	-6 927 404	-7 926 683	-8 464 140	-8 499 500
Prosjektavslutning	-178 566		81 562						
Overforbruk BOA	340 768	-105 011	-225 793	-9 964					
Isolert resultat	1 231 728	-7 926 304	1 981 856	6 422 945	15 849 918	19 694 024	14 514 923	16 322 436	13 516 785
Overført fra i fjor	-10 225 033	-8 993 306	-16 919 609	-14 937 753	-2 328 582	13 521 336	33 215 361	47 730 283	64 052 719
Akkumulert resultat	-8 993 306	-16 919 609	-14 937 753	-8 514 808	13 521 336	33 215 361	47 730 283	64 052 719	77 569 505

Utvikling inntekter

Det er ei god utvikling i nivået for KD-inntekt som følgje av auka aktivitet, KD inntekt basert på produksjon er nær dobla i langtidsperioden. Utover tildelte strategimidlar er det lagt inn tildeling av strategiske midlar for nytt studieprogram (Helseteknologi) med totalt 4 mkr. Det er lagt inn ei årleg inntekt på 1,5 mkr som følgje av andre mindre løpande tildelingar. Det er lagt til grunn forventningar om inntekt frå avtaler på utdanning med IFI, effekt er aukande og estimert til 1,5 mkr i 2029.

Utvikling personalkostnader

Nivået på personalkostnader er tilpassa auka aktivitetsnivå. Utgangspunktet er 2024 nivå, og ei auke på 6 årsverk. Det er erstatning av 2 årsverk for pensjonsavgang, samt ei auke på 2 årsverk gjennom egenfinansierte postdok årsverk innanfor robotikk og energi og i samband med oppstart av helseteknologistudiet er det frå 2026 ei auke på 2 vitenskaplige årsverk. Det er totalt lagt til grunn eit nivå på om lag 60 årsverk i perioden.

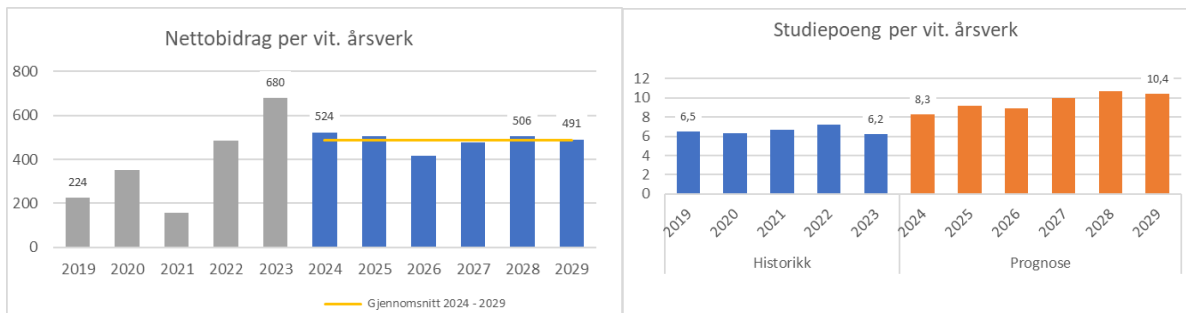
Utvikling driftskostnader og investeringer

Det er lagt til grunn ei moderat auke i driftskostnader frå dagens nivå som følgje av organisk vekst. Investeringsnivået er tufta på eit grunnnivå på 1,5 mkr årleg, for 2025 og 2026 er det lagt inn totalt 5 mkr som investering i lab for å bringe dette til eit akseptabelt nivå. Øvrig auke er basert på innkjøp av DESSI system (UiO tildeling).

Utvikling nettobidrag

Det er ei klar målsetting frå instituttet at vitenskaplige årsverk skal hente inn nettobidrag frå prosjekt og ambisjonen er sett med utgangspunkt i snitt for alle institutt.

Utvikling nøkkeltall:



Nettobidrag per årsverk i prognose viser ambisjonen til instituttet med å nærme seg gjennomsnitt for alle institutt på fakultetet. Historisk utvikling viser ei positiv trend, det er relativt få årsverk samt aktivitet som kan skape store variasjoner år for år.

Historisk utvikling på studiepoeng per årsverk viser at produksjonsauken har gått i takt med auke i årsverk. Prognosen viser ei forventning om utnyttning av kapasitet gjennom ei større auke i studenttilfanget enn i årsverk.

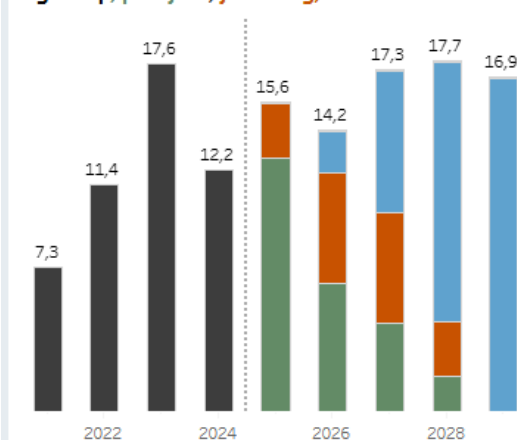
4. Bidrags- og oppdragsfinansiert aktivitet

Regnskap vs langtidsbudsjett BOA - klikk på +/- for å drille

	Regnskap 2021	Regnskap 2022	Regnskap 2023	Regnskap 2024	Prognose 2025	Prognose 2026	Prognose 2027	Prognose 2028	Prognose 2029
Inntekter	-7 313 572	-11 430 937	-17 576 114	-12 234 832	-15 618 481	-14 226 250	-17 286 254	-17 716 348	-16 900 000
Personalkostnader	5 731 156	6 961 485	9 328 957	7 653 656	10 371 837	10 568 646	12 454 371	12 012 207	10 324 500
Driftskostnader	727 664	1 130 712	1 066 616	893 064	1 058 200	1 244 900	1 660 100	2 090 300	2 277 000
Investeringer	23 753	0	0	56 038					
Nettobidrag fra eksterntfinansi..	993 200	3 233 728	7 036 311	4 125 728	4 188 442	2 412 704	3 171 783	3 613 840	4 298 500
Prosjektavslutning	178 566		-81 562						
Overforbruk BOA	-340 768	105 011	225 793	9 964					
Overført fra i fjor									
Grand Total	0	0	0	503 617	-3	0	0	0	0

Utvikling inntekter

regnskap, prosjekt, justering, fremtid



Grafen over viser BOA til ITS ekskludert CENSSS. Grunnlaget for JUSTERING og FREMTID er basert på historiske gjennomsnittsregnskapstall for ITS. Det er antatt at prosjektene har en varighet på tre år, med varierende inntektsstørrelser og nettobidrag, avhengig av finansieringskilden. For 2025 er estimatene

5 UiO

oppjustert med 2,9 millioner kroner, basert på bidrag fra prosjektene som ikke var med i budsjett. Disse prosjektene er estimert til å gi en samlet inntekt på 16,8 millioner og nettobidrag på ca. 4 millioner.

For FREMTID er lagt til grunn at ITS vil motta tre nye prosjekter finansiert av Norges forskningsråd og ett øvrige prosjekt hvert år fra og med 2026 til 2029. I tillegg forventes det ett EU-finansiert prosjekt hvert år fra og med 2027 til 2029. Disse prosjektene er lagt inn for å opprettholde dagens aktivitetsnivå med ørliten vekst.

4.1 CENSSS

Totalt:

Smart2	2025	2026	2027	2028	Sum total
110 - Inntekter	-15,147,346	-29,879,757	-12,255,178	-6,424,918	-63,707,199
120 - Personalkostnader	9,172,294	8,662,103	6,607,614	4,029,966	28,471,977
130 - Driftskostnader	4,000,000	4,000,000	4,000,000	2,000,000	14,000,000
140 - Investeringer		15,000,000			15,000,000
150 - Nettobidrag fra eksterntfinansierte prosjekter	1,185,000	1,330,800	988,800	237,000	3,741,600
Sum total	-790,052	-886,853	-658,764	-157,953	-2,493,622

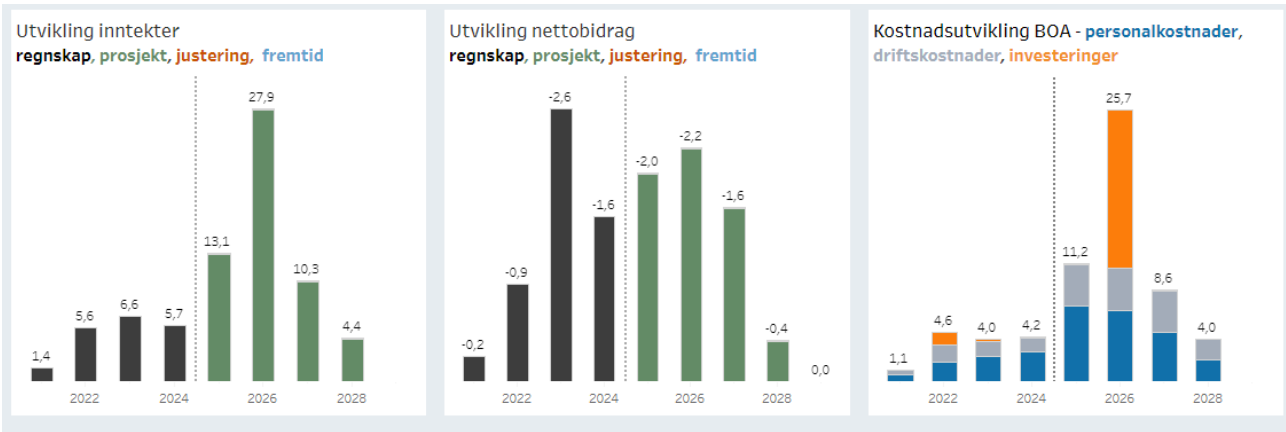
Basis:

CENSS mottar 2 millioner kroner årlig fra UiO. Fra og med 2024 skal disse midlene dekke lønnskostnadene til senterleder og midlertidig vitenskapelig tilsatt.

BOA:

Aktivitetsnivået forventes å øke betydelig i de kommende årene som følge av nye ansettelser som skjedde høsten 2024. Det er også budsjettert høyere kostnader knyttet til lønn og drift. I tillegg er det forutsatt en økning i kostnadene i 2026 på grunn av forventede utgifter knyttet til innkjøp av satellitt.

Nettobidraget er estimert til 2 millioner kroner i 2025 - 2026, og avtar etter det. Senteret skal etter avtale overføre andel av nettobidraget til instituttet.



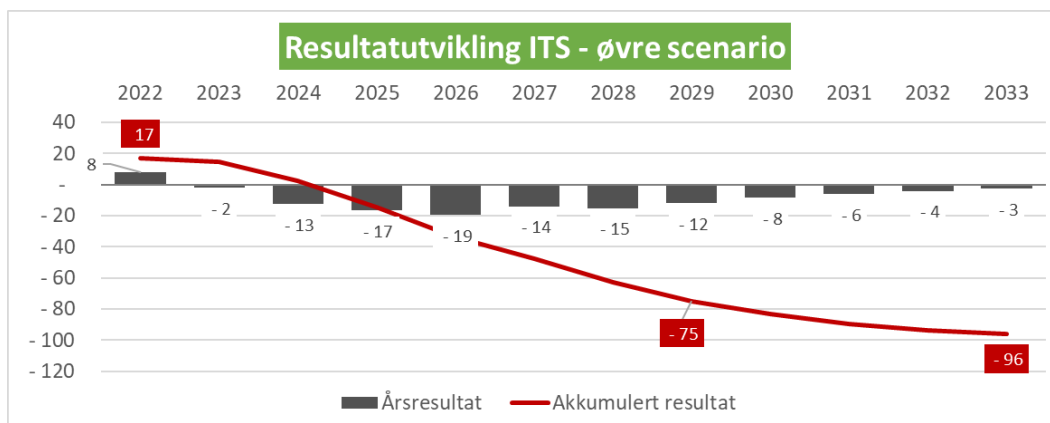
Regnskap vs langtidbudsjett BOA - klikk på +/- for å drille

	Regnskap 2021	Regnskap 2022	Regnskap 2023	Regnskap 2024	Prognose 2025	Prognose 2026	Prognose 2027	Prognose 2028	Prognose 2029
Inntekter	-1 362 115	-5 558 809	-6 618 521	-5 730 222	-13 147 346	-27 879 757	-10 255 178	-4 424 918	
Personalkostnader	627 949	1 817 974	2 354 689	2 796 566	7 172 294	6 662 103	4 607 614	2 029 966	
Driftskostnader	492 037	1 597 953	1 470 192	1 275 549	4 000 000	4 000 000	4 000 000	2 000 000	
Investeringer		1 215 393	207 936	97 464		15 000 000			
Nettobidrag fra eksterntfinansi..	242 130	927 488	2 585 704	1 560 643	1 975 052	2 217 653	1 647 564	394 953	0
Overført fra i fjor									
Grand Total	0	0	0	0	0	0	0	0	0

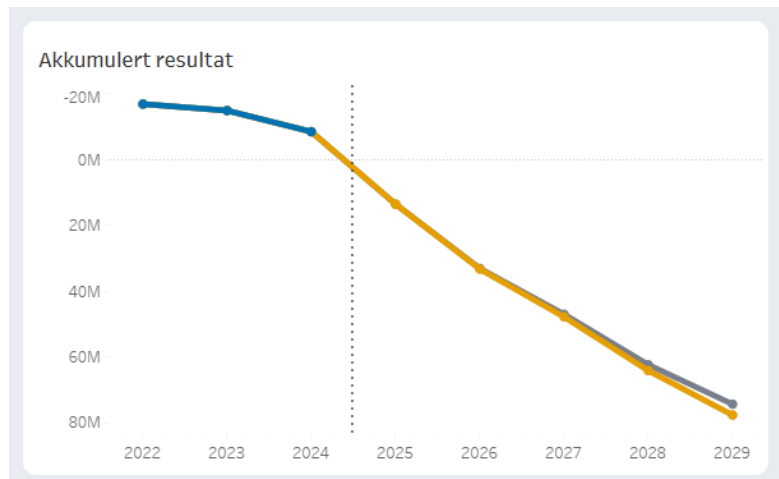
5. Kommentar til simuleringer og utfallsrom:

Vurderinger øvre utfallsrom

Scenario 1 – optimistisk utdanningsproduksjon. Total auke i KD inntekt i langtidsperioden som følge av dette er 3 mkr, og dette er vurdert som mulig innanfor kapasitet lagt til grunn i beste estimat. Effekt på scenarioet er vesentlig større utover langtidsperioden som følge av insentivmodell basert på 5-årig historikk, årleg effekt er om lag 2 mkr.

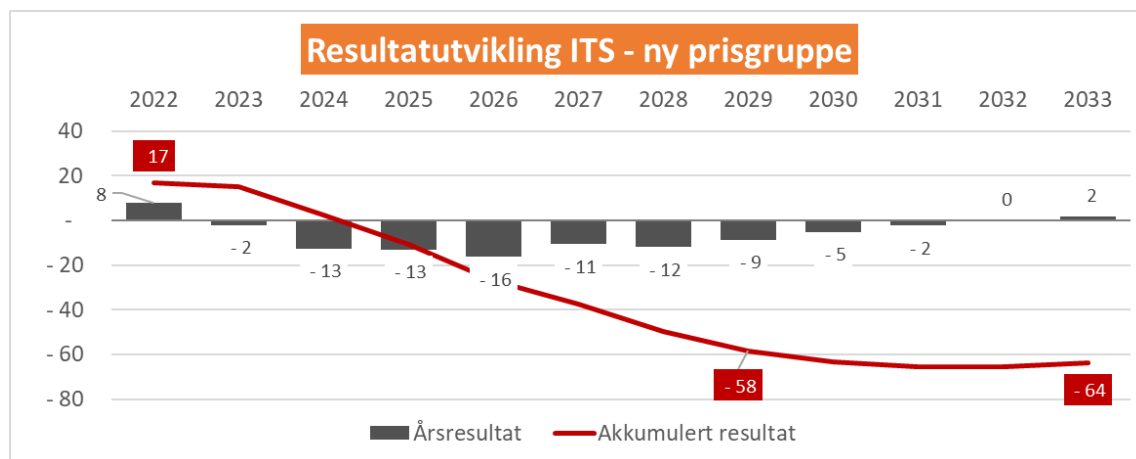


Regnskap og langtidsprognose - Øvre estimat									
tall i millioner kroner									
	Regnskap 2021	Regnskap 2022	Regnskap 2023	Regnskap 2024	Prognose 2025	Prognose 2026	Prognose 2027	Prognose 2028	Prognose 2029
Inntekter	-45,7	-47,9	-39,7	-32,2	-40,0	-41,1	-41,7	-39,8	-43,1
Personal	31,1	29,9	36,6	29,4	39,6	44,3	44,3	44,3	44,4
Drift	12,8	13,9	13,2	12,7	17,7	17,7	17,7	17,7	17,7
Investeringer	4,2	0,4	0,6	1,1	5,5	5,5	1,5	1,5	1,5
Isolert resultat før ..	2,5	-3,6	10,7	11,0	22,8	26,4	21,8	23,8	20,5
Nettobidrag	-1,4	-4,2	-8,6	-4,6	-7,0	-6,9	-7,9	-8,5	-8,5
Prosjektavslutning	-0,2		0,1						
Overforbruk BOA	0,3	-0,1	-0,2	0,0					
Isolert resultat	1,2	-7,9	2,0	6,4	15,8	19,5	13,9	15,3	12,0
Overført fra i fjor	-10,2	-9,0	-16,9	-14,9	-2,3	13,5	33,0	46,9	62,3
Akkumulert resultat	-9,0	-16,9	-14,9	-8,5	13,5	33,0	46,9	62,3	74,3



6. Øvrige kommentarer:

Figuren under viser estimert utvikling basert på beste estimat og at instituttet vert kategorisert som kvalifisert til ny prisgruppe i fakultetets fordelingsmodell (20 % tillegg) frå 2025.



Department:

Department of Technology Systems

Vacancy title:

A permanent full-time position as an associate professorship in security in Cybersecurity and Critical Infrastructures protection at the Department of Technology Systems (ITS).

Job description

A permanent full-time position as an associate professor in Cybersecurity and Critical Infrastructures protection is available at the Department of Technology Systems (ITS). The Department invites potential candidates to apply for the open position addressing security of the critical infrastructures. We are seeking a candidate with clear scientific and technological visions, interest in developing an emerging field, applying an experimental approach, good educational and interpersonal skills, abilities to establish and lead research projects, and an interest in sustainability. UiO is in the position to establish the emerging field of cybersecurity and critical infrastructures protection with an emphasis on contemporary cyber physical systems. Critical infrastructures are important for the maintenance of vital societal functions, health, safety, security, economic or social well-being of people. The growing digitalization and the emergence of advanced technologies within such infrastructure present substantial cyber risks to cyber-physical systems, where their disruption or destruction could have a great impact on society.

The successful candidate will contribute to the further strengthening of our profile in the area of cybersecurity in cyber physical systems through productive independent research, research supervision at all levels, participation in departmental and university-wide activities, attract external research funding, and establish national and international research collaboration networks.

The research at ITS has a system focus. Given the capabilities of technology systems to contribute to sustainability, research that aligns with UN development goals is in focus.

General information about the position:

We seek an enthusiastic and dedicated person who meets the required qualifications for an associate professorship, with a scientific profile that fits and complements the activities of the research group. The applicant must have a Ph.D. that is relevant to research on cybersecurity in cyber-physical systems in general or/and critical infrastructure protection. These are emerging fields that can be filled with candidates from different backgrounds. A successful candidate therefore does not necessarily have a long track record within the area, instead she/he needs to have a clear vision of how the area can be developed. It is an advantage with post-graduate research experience, with relevant research and project activities.

The ideal candidate has an excellent research record and has made important theoretical and methodological contributions, has the pedagogical experience, capability of attracting external funding, and is interested in being an active and participating member of the research group. The candidate will bring substantial practical experience in cybersecurity, cyber resilience, and the protection of critical infrastructures. This role requires an

innovative educator with a dedication to practical learning, real-world problem-solving, and a commitment to developing cybersecurity strategies that defend critical systems against emerging threats. Research on security in cyber-physical systems/ critical infrastructure protection implies a strong interest in cross-discipline collaboration, foremost with ITS existing research groups on autonomous systems and renewable energy systems, but also the research group on digital security at the Department of Informatics (IFI), UiO.

Applicants must document academic qualifications in their field, equivalent to Associate professor position. The successful applicant must be able to teach at all levels and supervise Master and PhD students. The department wants to foster close cooperation with industry, and the successful candidate is expected to develop master topics from research institutes and industry.

The successful applicant may furthermore be required to take on other teaching duties and administrative tasks, at the request of the Department or the Faculty of Mathematics and Natural Sciences.

The research area for the position can include technologies referred to in the Ministry's export control regulations, and the candidate must be eligible to obtain a security clearance.

Main tasks

The main tasks of the position are teaching and research. In detail, this includes:

- Develop both teaching and research activities aimed at cybersecurity of cyber-physical systems and critical infrastructures protection. The area needs to be developed and promoted substantially compared to the existing activity.
 - Collaborate and coordinate with existing research groups.
 - Initiate and lead research activities and attract external funding for new research relevant projects.
 - Initiate and participate in teaching, development, and improvement of courses and study programs at the department
- Establish collaboration across the department, university, and with external partners including industry, government, and academia
- Academic administration

Qualification requirements

Required qualifications

The applicant must have a Ph.D. within the field of cyber physical systems security (or a comparable relevant field).

- Scientific qualifications will play a major role, and the main emphasis will be on the candidate's scientific production over the last five years.

- Pedagogical qualifications and teaching and supervision experience at all levels will be an important factor in the evaluation process and should be well documented in a teaching portfolio. The applicant should describe her/his qualifications in view of the Scholarship of Teaching and Learning (SoTL) framework which includes:
 - Focus on student learning
 - A clear development over time
 - A research approach
 - A collegial attitude and practice

The successful applicant must have fluent oral and written communication skills. Mastery of both English and one of the Scandinavian languages as working languages is desired. If an appointee is not fluent in a Scandinavian language, the appointee will be required to learn sufficient Norwegian within a two-year period, to be able to participate actively in all functions the position may involve.

The successful candidate who at the time of appointment cannot document sufficient teaching qualifications (minimum formal requirement is a 200 hrs pedagogical program) will be required to obtain such qualifications within a two-year period.

Desirable qualifications:

Candidates should be able to establish, lead and conduct research projects, also as a collaborator. A track record in scientific and administrative leadership is an advantage, and experience in attracting external research funding from e.g. the Norwegian Research Council, the EU and other will be emphasized.

Experience within one or more of the following areas is an advantage:

- Extensive knowledge and solid understanding of critical infrastructures and cyber physical systems security.
- Experience in working on cybersecurity and threat analysis in cyber physical systems and artificial intelligence.
- A good understanding of cybersecurity standards and regulations.
- A good understanding of the industrial networks.
- Good understanding of the security implication digitalization has on critical infrastructures.
- Research experience addressing security in cyber-physical systems/critical infrastructures.
- Experience in teaching cybersecurity courses and in developing practical cybersecurity exercises.
- Interdisciplinary collaboration, industrial collaboration, and collaboration with regulatory/policymakers.
- International networking, outreach activities, collegiality, and the ability to create a good working environment.

Personal qualities:

In ranking of the applicants, the following personal qualifications will be considered and given significant weight (the list is not in order of priority):

- Interest in developing cooperation between the department, the research institutes at Kjeller, other departments at the Faculty of Mathematics and Natural Sciences, and with the private and public sector and other universities both in Norway and internationally.
- Ability to cooperate and communicate well with other members of the staff
- Ability to create and contribute to a well-functioning, inclusive, and productive research and teaching environment
- Networking skills and ability to initiate collaborative project
- Motivation for a focus on achieving the SDGs

We offer:

- Salary NOK 650 000 – 776 900 per annum depending on qualifications in a position as Associate Professor (position code 1011)
- A professionally stimulating work environment.
- Attractive welfare benefits and a generous pension agreement, in addition to Oslo's family-friendly environment with its rich opportunities for culture and outdoor activities.
- The opportunity to apply for promotion to full professorship at a later stage only pertains to employment as Associate Professor.

How to apply:

The application must include:

- Application letter.
- A research position paper (1–4 pages) describing the applicant's vision and scientific ambitions for the near future.
- A detailed CV, including a complete list of education, positions, pedagogical experience, administrative experience, project acquisition and coordination experience, and other qualifying activities.
- Copies of educational certificates, PhD diploma, transcript of records and letters of recommendation.
- A complete list of publications and academic merits and awards (if not included in the CV).
- Full text of up to 10 selected scientific publications the applicant wishes to include in the evaluation.
- A document discussing the importance, interrelation, and relevance of the selected papers for this position.
- Educational portfolio of 3–6 pages documenting educational competence and experience, including a reflection note in which your own teaching practice and view of learning is anchored in the SoTL framework (focus on student learning, development over time, a researching approach and a collegial attitude and practice)
- List of reference persons: 2–3 references (name, relation to candidate, e-mail and phone number)

The application with attachments must be submitted in our electronic recruiting system; please follow the link "apply for this job". Please note that **all** documents should be in English (or a Scandinavian language).

Formal regulations:

As a general rule an interview will be used in the appointment process, usually supplemented with a trial teaching session. The basis for assessment will be the scientific production of the applicant, the teaching portfolio, pedagogical and educational qualifications, the applicant's qualifications within leadership and administration, other qualifications as well as general personal suitability for the position. In ranking the competent applicants, the full range of qualifications will be considered and explicitly assessed.

Rules for appointments to associate professorships.

<https://www.uio.no/english/about/regulations/personnel/academic/rules-appointment-professor.html>

Rules for the assessment and weighting of pedagogical competence for appointments to permanent academic posts which include teaching duties:

<https://www.uio.no/english/about/regulations/personnel/academic/rules-basic-pedagogical-competence.html>

According to the Norwegian Freedom and Information Act (Offentleglova), information about the applicant may be included in the public applicant list, also in cases where the applicant has requested non-disclosure.

The University of Oslo aims to achieve a balanced gender composition in the workforce and to recruit people with ethnic minority backgrounds. Women are encouraged to apply.

The University of Oslo has an agreement for all employees, aiming to secure rights to research results, see: <http://www.uio.no/english/for-employees/employment/work-results/>

In addition, the University of Oslo aims for its employees to reflect the diversity of the population to the greatest degree possible. We therefore encourage qualified applicants with disabilities or gaps in their CV to apply for the position. The University of Oslo will adapt the workplace to suit employees with disabilities. Applicants who indicate that they have disabilities or gaps in their CV are made aware that this information may be used for statistical purposes.

Contact persons:

Head of department Cecilie Rolstad Denby,
Email c.r.denby@its.uio.no, tlf +47 22842221

For technical questions about the recruitment process, please contact HR adviser Olga Holmlund, Email olga.holmlund@mn.uio.no

Application deadline : minimum of four weeks from announcement

Dette kommer med I Jobb Norge nederst

The University of Oslo is Norway's oldest and highest rated institution of research and education with 28 000 students and 7000 employees. Its broad range of academic disciplines and internationally esteemed research communities make UiO an important contributor to society.

The University of Oslo (UiO) is expanding the activity at Campus Kjeller to strengthen our education, research, and innovation in technology for a sustainable future. UiO is a well-ranked research university where the Department of Technology Systems at Kjeller (ITS) is focused on applied research in sustainable energy, autonomous systems, space, and security. At Kjeller, ITS is co-located with the Norwegian Defense Research Establishment (FFI) and the Institute for Energy Technology (IFE), which both offer rich opportunities for collaboration.

ITS also has a range of interdisciplinary research collaborations that include the UiO Blindern Campus and Oslo Science City, as well as many other national and international institutions and industries.

ITS offers several master level programs, alone and jointly with other departments: Renewable energy systems, Cybernetics and autonomous systems, Robotics and intelligent systems, and Information security. ITS also hosts the Centre for Space Sensors and Systems (CENSSS), which incorporates operation of an instrument on the NASA Perseverance rover on Mars. A new master program in Space systems is in the planning stage. The department currently has 9 permanent scientific staff, approximately 35 adjunct staff from the research institutes at Kjeller and from industry, as well as about 20 PhD candidates. This position is part of an ongoing expansion of the UiO activity at Campus Kjeller. Campus Kjeller is located 20 km northeast of Oslo, between the city center and Oslo Airport. It is a 20 minutes commute with public transportation from Oslo City Center to the campus.

Department of Technology Systems

Ref.no:

Associate Professor in Cybernetics and Autonomous Systems

A permanent full-time position as associate professor is available in the section for Autonomous Systems and Sensor Technology (Autosens) at the Department of Technology Systems (ITS). The Department invites potential candidates to apply for the open position in cybernetics and autonomous systems with specialization in applied robotics. We are seeking a candidate with clear scientific and technological visions, interest in applying an experimental approach, good educational and interpersonal skills, and abilities to establish and lead research projects, and with an interest in sustainability. The introduction of autonomous robots will most likely be an important part of the necessary societal transformation into sustained resource management with vital contributions in sectors like development of clean autonomous transport systems, surveillance of future energy systems, space systems exploration, smart agricultural robotics, robotics for the elderly and improved welfare services, and the environmental surveillance of urban and rural areas.

About the Department and what they are looking for in this position.

UiO is now expanding its activities on Campus Kjeller and we are seeking highly motivated scientific staff who can contribute to the development of master education, research and innovation for a sustainable future. Campus Kjeller is located 20 km northeast of Oslo, between the city center and Oslo Airport. Oslo city center can be reached in 10 minutes by train from Lillestrøm station, which is located 3 km south of Kjeller. UiOs vision is to create a solid environment for research, education and innovation in various aspects of technology systems. Given the capabilities of technology systems to contribute to a sustainable future, research that aligns with UN development goals (SDGs) is in focus. The research at ITS is often at a higher TRL (Technology Readiness Level) than most activities at the faculty, and it has a system focus. A systematic approach is needed to address the direction of research towards achieving the SDGs, where ITS contributes amongst others with digital inclusion and transition to renewable energy. ITS is also the host institution for a Center for Research based Innovation called the Center for Space Sensors and Systems (CENSSS). This center participates with NASA in the 2020 Perseverance rover on Mars project. ITS activities are conducted in close interaction with the existing research and technology communities at Kjeller. Important cooperative partners here are the Norwegian Defense Research Establishment (FFI) with 700 employees and the Institute for Energy Technology (IFE) with 650 employees, which offer solid opportunities for collaboration within ITS' scientific fields: autonomous systems (by land, air and sea), space systems, renewable energy systems and security in cyber physical systems. ITS is also tightly integrated with complementary and interdisciplinary activities at the UiO Blindern Campus and Oslo Science City, and works in close cooperation with other relevant national and international institutions and industries. The department has currently 9 permanent scientific staff, approximately 35 part-time scientists from the research institutes at Kjeller or from industry, and approximately 20 PhD candidates. This advertised available position is part of UiOs ongoing expansion of the number of scientific staff at Campus Kjeller. At present, the Department of Technology Systems has two sections: Section for Autonomous Systems and Sensor Technologies and Section for Energy Systems. There is

significant interdisciplinary overlap between the two sections. ITS is responsible for a Master's degree program option in Cybernetics and autonomous systems which is part of a Master's degree program in Robotics and intelligent systems at the Department of Informatics (IFI). ITS also collaborates with IFI on IFI's Master's degree program in Information security. ITS has a Master's degree program in Renewable energy systems, which started in 2019

General information about the position:

We seek an enthusiastic and dedicated person who meets the required qualifications for an associate professorship, with a scientific profile that fits the activities of the research group. The applicant must have a PhD in cybernetics and autonomous systems (or equivalent qualifications) and post-graduate research experience, with research interests in applied robotics. The ideal candidate has an excellent research record and has made important theoretical and methodological contributions, has pedagogical experience, capability of attracting external funding, and interest in being an active and participating member of the research group. Applicants must document academic qualifications in their field, equivalent to an associate professor position. The successful applicant must be able to teach at all levels and to supervise Master and PhD students. The department wants to foster close cooperation with industry, and the successful candidate is expected to recruit master topics from research institutes and industry. The successful applicant may furthermore be required to take on other teaching duties and administrative tasks, by request from the Department or the Faculty of Mathematics and Natural Sciences.

One of the department's focus areas is demonstrating new methods, algorithms, and principles. It is therefore important that the successful candidate can both demonstrate and have an interest in experimental work and developing demonstrators and prototypes. The candidate is expected to strengthen the research on control and performance of autonomous systems composed of interconnected components with multiple actuators and sensors that generate data to be processed in real-time. It is also important that the candidate have research interests in artificial intelligence and machine learning methods applied to robotic control, like deep neural nets, bioinspired optimization and so forth.

Qualification requirements

Main tasks

The main tasks of the position are teaching and research. In detail this includes:

- Initiate research projects and actively attract external funding for new research projects
- Teaching at all levels, and supervision of Master and PhD students
- Participation in development and improvement of courses and study programs at the department
- Establish collaboration – interdisciplinary and beyond campus
- Academic administration

Required qualifications

- The successful candidate must have relevant education at the doctoral level and be able to document scientific qualifications in key areas of cybernetics and autonomous systems applied to robotics

- For appointments to professorships the requirement is considerable scientific production beyond what is required for a doctoral degree.
- A strong scientific record is required. In the evaluation emphasis will be on the candidate's scientific production in the last five year
- Pedagogical qualifications and teaching and supervision experience at all levels will be an important factor in the evaluation process and should be well documented in a teaching portfolio. The applicant should describe her/his qualifications in view of the Scholarship of Teaching and Learning (SoTL) framework which includes:
 - Focus on student learning
 - A clear development over time
 - A researching approach
 - A collegial attitude and practice

The successful candidate who at the time of appointment cannot document sufficient teaching qualifications (minimum formal requirement is a 200 hrs pedagogical programme), will be required to obtain such qualifications within a two-year period.

The candidate must have fluent oral and written communication skills. Applicants must demonstrate mastery of both English and one of the Scandinavian languages as working languages. If an appointee is not fluent in a Scandinavian language, the appointee will be required to learn sufficient Norwegian within a two-year period, to be able to participate actively in all functions the position may involve.

Courses are taught in both Norwegian and English and foreign language speakers are expected to be able to teach in Norwegian within a certain time after being appointed.

The research area for the position can include technologies referred to in the Ministry's export control regulations, and the candidate must be eligible to obtain a security clearance

Desirable qualifications:

We are seeking a promising researcher with a track record backed up by high-profile demonstrated systems work (published artifacts, open-source projects, public demonstrations) and publications in the areas of autonomous systems. Experience within one or more of the following areas is desired:

- Control theory of mobile robots
- Autonomous systems design, development and experimentation
- Artificial intelligence methods applied to robotic control
- Candidates should be able to establish, lead and conduct research projects, also as a collaborator. A track record in scientific and administrative leadership is an advantage, as well as participation in the acquisition of research grants.
- International network, outreach activities, collegiality, and the ability to create a good working environment will be part of the evaluation.
- The person appointed will be requested to take on some administrative duties. Hence such experience will be an advantage.

Personal qualities:

The successful applicant will initiate and lead research, supervise research students, teaching of students and examination work at all levels within the relevant subject areas, and will also participate in organizational, administrative, and structural responsibilities alongside the permanent staff of the group. Experience in attracting external research funding will be emphasized. In ranking of the applicants, the following personal

qualifications and experience will be considered and given significant weight (the list is not in order of priority)

- Aptitude and interest in applying an experimental approach
- Personal suitability and interest for cooperation between the Department of technology systems, the research institutes at Kjeller, other departments at the Faculty of Mathematics and Natural Sciences, and with the private and public sectors
- National and international network of contacts
- Experience from industry or development projects
- Qualifications within research management, administration and dissemination
- Ability to initiate collaborative projects
- Experience from attracting external research funding from the Research Council, the EU and other
- Ability to create and contribute to a well-functioning, inclusive and productive research environment
- Ability to cooperate and communicate well with other members of staff
-
- Networking skills, ability to collaborate and conduct scientific leadership

The successful candidate should have an international profile with respect to the above criteria. The candidate for this position will be selected based on excellence and fit with the section's research profile.

We offer:

- Salary according to pay grade Associate Professor (position code 1011), ltr. 70-78, NOK 617 800 -743 100, per year depending on experience/seniority
- Attractive welfare benefits and a generous pension agreement, in addition to Oslo's family-friendly environment with its rich opportunities for culture and outdoor activities.
- The opportunity to apply for promotion to full professorship at a later stage only pertains to employment as Associate Professor.
- A pleasant and challenging work environment
- Good pension benefits under State Pension Fund
- Position in an IA enterprise
- [Employee benefits - For employees - University of Oslo \(www-uio-no.translate.goog\)](http://www.uio.no.translate.goog)

How to apply:

The application must include:

- Application letter
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- A detailed CV, including a complete list of education, positions, pedagogical experience, administrative experience, project acquisition and coordination experience, and other qualifying activities.
- Copies of educational certificates, PhD diploma, transcript of records and letters of recommendation.
- A complete list of publications and academic merits and awards (if not included in the CV).
- Full text of up to 10 selected scientific publications the applicant wishes to include in the evaluation.

- A portfolio containing documentation of capability of external fund raising and other qualifications the applicant wants to have considered
- A document discussing the importance, interrelation, and relevance of the selected papers for this position.
- Educational portfolio of 3–6 pages documenting educational competence and experience, including a reflection note in which your own teaching practice and view of learning is anchored in the SoTL framework (focus on student learning, development over time, a researching approach and a collegial attitude and practice)
- List of reference persons: 2–3 references (name, relation to candidate, e-mail and phone number)

The application with attachments must be submitted in our electronic recruiting system; please follow the link “apply for this job”. Please note that **all** documents should be in English (or a Scandinavian language).

Eventuelt: A selection committee will invite a limited number of candidates (“short list”) to submit a portfolio of academic work (i.e. up to 10 publications) that are particularly relevant for the position. Academic texts should therefore not be enclosed with the application.

Formal regulations:

As a general rule an interview will be used in the appointment process, usually supplemented with a trial teaching session. The basis for assessment will be the scientific production of the applicant, the teaching portfolio, pedagogical and educational qualifications, the applicant’s qualifications within leadership and administration, other qualifications as well as general personal suitability for the position. In ranking the competent applicants, the full range of qualifications will be considered and explicitly assessed.

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have disabilities or gaps in their CV are made aware that this information may be used for statistical purposes.

Contact persons:

Professor Paal Engelstad paal.engelstad@its.uio.no

Associate professor Kim Mathiassen kim.mathiassen@its.uio.no

Head of Department Cecilie Rolstad Denby c.r.denby@its.uio.no tlf. +47 22842221

For technical questions about the recruitment process, please contact HR officer Ørjan Pretorius orjan.pretorius@mn.uio.no tlf +47 22856349

Application deadline ; Eight (8) weeks from announcement

The University of Oslo is Norway's oldest and highest rated institution of research and education with about 28 000 students and 7000 employees. Its broad range of academic disciplines and internationally esteemed research communities make UiO an important contributor to society. The Department of Technology systems is part of the Faculty of Mathematics and Natural Sciences. The Department is engaged in research covering a wide spectrum of subjects within technology systems.