

lab1_practice_selenium_continued

January 18, 2022

1 Lab 1 - Practice - Selenium

```
[ ]: from selenium import webdriver
from webdriver_manager.chrome import ChromeDriverManager
from bs4 import BeautifulSoup as BS

driver = webdriver.Chrome(ChromeDriverManager().install())
ntnu_faculties = "https://www.ntnu.edu/faculties"
driver.get(ntnu_faculties)

content = driver.page_source
soup = BS(driver.page_source, features="html.parser")
driver.quit()
```

```
===== WebDriver manager =====
Current google-chrome version is 97.0.4692
Get LATEST chromedriver version for 97.0.4692 google-chrome
Driver
[C:\Users\mathi\wdm\drivers\chromedriver\win32\97.0.4692.71\chromedriver.exe]
found in cache
C:\Users\mathi\AppData\Local\Temp\ipykernel_4916\1972645700.py:5:
DeprecationWarning: executable_path has been deprecated, please pass in a
Service object
    driver = webdriver.Chrome(ChromeDriverManager().install())
```

```
[ ]: soup
```

```
[ ]: <html class="ltr yui3-js-enabled webkit js chrome chrome97 chrome97-0 win
secure" dir="ltr" lang="en-GB"><head>
<title>Faculties and departments - NTNU</title>
<meta content="initial-scale=1.0, width=device-width" name="viewport"/>
<meta content="yes" name="mobile-web-app-capable"/>
<meta content="NTNU" name="application-name"/>
<meta content="yes" name="apple-mobile-web-app-capable"/>
<meta content="NTNU" name="apple-mobile-web-app-title"/>
<meta content="default" name="apple-mobile-web-app-status-bar-style"/>
```

```

<link href="https://www.ntnu.edu/o/ntnu-theme/images/ntnu-icon-60x60.png"
rel="apple-touch-icon"/>
<link href="https://www.ntnu.edu/o/ntnu-theme/images/images/ntnu-icon-76x76.png"
rel="apple-touch-icon" sizes="76x76"/>
<link href="https://www.ntnu.edu/o/ntnu-theme/images/ntnu-icon-120x120.png"
rel="apple-touch-icon" sizes="120x120"/>
<link href="https://www.ntnu.edu/o/ntnu-theme/images/ntnu-icon-152x152.png"
rel="apple-touch-icon" sizes="152x152"/>
<link
href="//fonts.googleapis.com/css?family=Open+Sans:400italic,400,300,600,700"
rel="stylesheet" type="text/css"/>
<meta content="MvmsXC06IWYb82SIuHjRFnJodYChvM7Vot7rt_2EcGk" name="google-site-
verification"/>
<meta content="text/html; charset=utf-8" http-equiv="content-type"/>
<script async="" src="//siteimproveanalytics.com/js/siteanalyze_6000120.js"
type="text/javascript"></script><script async="" src="//www.google-
analytics.com/analytics.js"></script><script data-senna-track="permanent"
src="/o/frontend-js-lodash-web/lodash/lodash.js"
type="text/javascript"></script>
<script data-senna-track="permanent" src="/o/frontend-js-lodash-
web/lodash/util.js" type="text/javascript"></script>
<link href="https://www.ntnu.edu/o/ntnu-theme/images/logoicon.ico" rel="icon"/>
<link data-senna-track="temporary" href="https://www.ntnu.edu/nb/faculties"
hreflang="nb-NO" rel="alternate"/>
<link data-senna-track="temporary" href="https://www.ntnu.edu/faculties"
hreflang="x-default" rel="alternate"/>
<link data-senna-track="temporary" href="https://www.ntnu.edu/faculties"
hreflang="en-GB" rel="alternate"/>
<link class="lfr-css-file" data-senna-track="temporary"
href="https://www.ntnu.edu/o/ntnu-theme/css/clay.css?browserId=other&themeId
=ntnutheme_WAR_ntnutheme&minifierType=css&languageId=en_GB&b=7110&
p;t=1642170190000" id="liferayAUICSS" rel="stylesheet" type="text/css"/>
<script async="" charset="utf-8" id="yui_patched_v3_18_1_1_1642499923715_56" src
="/combo/?browserId=other&minifierType=&languageId=en_GB&b=7110&
p;t=1642173727277&/o/frontend-js-web/auui/event-touch/event-touch-
min.js&/o/frontend-js-web/auui/event-move/event-move-min.js"></script><link h
ref="/combo/?browserId=other&minifierType=&languageId=en_GB&b=7110&a
mp;t=1642173727277&/o/frontend-js-web/auui/widget-
base/assets/skins/sam/widget-base.css&/o/frontend-js-web/auui/widget-
stack/assets/skins/sam/widget-stack.css&/o/frontend-js-web/auui/auui-tooltip-
base/assets/skins/sam/auui-tooltip-base.css&/o/frontend-js-web/auui/auui-
alert/assets/skins/sam/auui-alert.css"
id="yui_patched_v3_18_1_1_1642499923715_59" rel="stylesheet"/><script async=""
charset="utf-8" id="yui_patched_v3_18_1_1_1642499923715_60"
src="https://www.ntnu.edu/o/frontend-js-web/liferay/available_languages.jsp?brow
serId=other&themeId=ntnutheme_WAR_ntnutheme&colorSchemeId=01&minifie
rType=js&languageId=en_GB&b=7110&p;t=1642173725210"></script><script

```

```

async="" charset="utf-8" id="yui_patched_v3_18_1_1_1642499923715_61" src="/combo
/?browserId=other&minifierType=&languageId=en_GB&b=7110&t=164217
3727277&/o/frontend-js-web/auibase-core/base-core-min.js&/o/frontend-
js-web/auibase-observable/base-observable-min.js&/o/frontend-js-
web/auiaui-widget-cssclass/auiaui-widget-cssclass-min.js&/o/frontend-js-
web/auiaui-widget-toggle/auiaui-widget-toggle-min.js&/o/frontend-js-
web/auibase-build/base-build-min.js&/o/frontend-js-web/auiaui-aria/auia-
ria-min.js&/o/frontend-js-web/auiaui-transition/transition-
min.js&/o/frontend-js-web/auiaui-widget-transition/auiaui-widget-transition-
min.js&/o/frontend-js-web/auiaui-widget-trigger/auiaui-widget-trigger-
min.js&/o/frontend-js-web/auiaui-widget-position/widget-position-
min.js&/o/frontend-js-web/auiaui/widget-position-align/widget-position-align-
min.js&/o/frontend-js-web/auiaui/widget-stdmod/widget-stdmod-
min.js&/o/frontend-js-web/auiaui/auiaui-widget-position-align-suggestion/auia-
ui-widget-position-align-suggestion-min.js&/o/frontend-js-
web/auiescape/escape-min.js&/o/frontend-js-web/auiaui/widget-autohide/widget-
autohide-min.js"></script><script async="" charset="utf-8"
id="yui_patched_v3_18_1_1_1642499923715_62" src="/combo/?browserId=other&min
ifierType=&languageId=en_GB&b=7110&t=1642173727277&/o/frontend-
js-web/auiaui/widget-position-constrain/widget-position-constrain-
min.js&/o/frontend-js-web/auiaui/widget-stack/widget-stack-
min.js&/o/frontend-js-web/auiaui/auiaui-tooltip-base/auiaui-tooltip-base-
min.js&/o/frontend-js-web/auiaui/auiaui-tooltip-delegate/auiaui-tooltip-delegate-
min.js&/o/frontend-js-web/liferay/language.js&/o/frontend-js-
web/auiasync-queue/async-queue-min.js&/o/frontend-js-web/auiaui/gesture-
simulate/gesture-simulate-min.js&/o/frontend-js-
web/liferay/navigation_interaction.js&/o/frontend-js-web/auiaui/querysting-
stringify/querysting-stringify-min.js&/o/frontend-js-web/auiaui-io-
request/auiaui-io-request-min.js&/o/frontend-js-web/auiaui/cookie/cookie-
min.js&/o/frontend-js-web/auiaui/timers/timers-min.js&/o/frontend-js-
web/auiaui/alert/auiaui-alert-min.js&/o/frontend-js-
web/liferay/node.js&/o/frontend-js-
web/liferay/portlet_base.js&/o/frontend-js-
web/liferay/alert.js&/o/frontend-js-
web/liferay/notification.js"></script><script async="" charset="utf-8"
id="yui_patched_v3_18_1_1_1642499923715_63" src="/combo/?browserId=other&min
ifierType=&languageId=en_GB&b=7110&t=1642173727277&/o/frontend-
js-web/liferay/session.js"></script><link href="/combo/?browserId=other&mini
fierType=&languageId=en_GB&b=7110&t=1642173727277&/o/frontend-
js-web/auiaui/cssbutton/cssbutton-min.css&/o/frontend-js-web/auiaui/widget-
modality/assets/skins/sam/widget-modality.css&/o/frontend-js-web/auiaui-
button-core/assets/skins/sam/auiaui-button-core.css&/o/frontend-js-web/auiaui-
modal/assets/skins/sam/auiaui-modal.css&/o/frontend-js-web/auiaui/resize-
base/assets/skins/sam/resize-base.css"
id="yui_patched_v3_18_1_1_1642499923715_242" rel="stylesheet"/><script async=""
charset="utf-8" id="yui_patched_v3_18_1_1_1642499923715_243" src="/combo/?browse
rId=other&minifierType=&languageId=en_GB&b=7110&t=1642173727277&

```

```

amp;/o/frontend-js-web/au/au-parse-content/au-parse-content-
min.js& /o/frontend-js-web/liferay/portlet_url.js& /o/frontend-js-
web/au/au-overlay-base-deprecated/au-overlay-base-deprecated-
min.js& /o/frontend-js-web/au/au-overlay-mask-deprecated/au-overlay-mask-
deprecated-min.js& /o/frontend-js-web/au/au-loading-mask-deprecated/au-
loading-mask-deprecated-min.js& /o/frontend-js-web/au/au-dialog-iframe-
deprecated/au-dialog-iframe-deprecated-min.js& /o/frontend-js-
web/au/button-core/button-core-min.js& /o/frontend-js-web/au/button-
plugin/button-plugin-min.js& /o/frontend-js-web/au/widget-buttons/widget-
buttons-min.js& /o/frontend-js-web/au/widget-modality/widget-modality-
min.js& /o/frontend-js-web/au/dd-ddm-base/dd-ddm-base-
min.js& /o/frontend-js-web/au/dd-drag/dd-drag-min.js& /o/frontend-js-
web/au/dd-plugin/dd-plugin-min.js& /o/frontend-js-web/au/dd-constrain/dd-
constrain-min.js& /o/frontend-js-web/au/button/button-
min.js"></script><script async="" charset="utf-8"
id="yui_patched_v3_18_1_1_1642499923715_244" src="/combo/?browserId=other&mi-
nifierType=&languageId=en_GB&b=7110&t=1642173727277& /o/frontend-
js-web/au/button-group/button-group-min.js& /o/frontend-js-web/au/au-
button-core/au-button-core-min.js& /o/frontend-js-web/au/au-toolbar/au-
toolbar-min.js& /o/frontend-js-web/au/au-widget-toolbars/au-widget-
toolbars-min.js& /o/frontend-js-web/au/event-flick/event-flick-
min.js& /o/frontend-js-web/au/event-valuechange/event-valuechange-
min.js& /o/frontend-js-web/au/event-tap/event-tap-min.js& /o/frontend-js-
web/au/dd-ddm/dd-ddm-min.js& /o/frontend-js-web/au/dd-ddm-drop/dd-ddm-drop-
min.js& /o/frontend-js-web/au/dd-drop/dd-drop-min.js& /o/frontend-js-
web/au/dd-drop-plugin/dd-drop-plugin-min.js& /o/frontend-js-web/au/dd-
delegate/dd-delegate-min.js& /o/frontend-js-web/au/resize-base/resize-base-
min.js& /o/frontend-js-web/au/resize-plugin/resize-plugin-
min.js& /o/frontend-js-web/au/au-modal/au-modal-min.js& /o/frontend-js-
web/au/au-modal-resize/au-modal-resize-min.js& /o/frontend-js-
web/liferay/widget_zindex.js"></script><script async="" charset="utf-8"
id="yui_patched_v3_18_1_1_1642499923715_245" src="/combo/?browserId=other&mi-
nifierType=&languageId=en_GB&b=7110&t=1642173727277& /o/frontend-
js-web/liferay/util_window.js& /o/frontend-js-
web/liferay/sign_in_modal.js"></script><script async="" charset="utf-8"
id="yui_patched_v3_18_1_1_1642499923715_246" src="/combo/?browserId=other&mi-
nifierType=&languageId=en_GB&b=7110&t=1642173727277& /o/frontend-
js-web/au/querystring-parse/querystring-parse-min.js& /o/frontend-js-
web/au/au-url/au-url-min.js"></script><link href="/combo/?browserId=other&mi-
nifierType=&languageId=en_GB&b=7110&t=1642173727277& /o/fron-
tend-js-web/au/tabview/assets/skins/sam/tabview.css& /o/frontend-js-
web/au/au-tabview/assets/skins/sam/au-tabview.css"
id="yui_patched_v3_18_1_1_1642499923715_253" rel="stylesheet"/><script async=""
charset="utf-8" id="yui_patched_v3_18_1_1_1642499923715_254" src="/combo/?brow-
se-
rId=other&minifierType=&languageId=en_GB&b=7110&t=1642173727277&
& /o/frontend-js-web/au/widget-parent/widget-parent-min.js& /o/frontend-
js-web/au/widget-child/widget-child-min.js& /o/frontend-js-web/au/tabview-

```

```

base/tabview-base-min.js&#x26;/o/frontend-js-web/au/tabview/tabview-
min.js&#x26;/o/frontend-js-web/au/au-tabview/au-tabview-min.js"></script><link
data-senna-track="temporary" href="/o/frontend-css-web/main.css?browserId=other&
&#x26;themeId=ntnutheme_WAR_ntnutheme&#x26;minifierType=css&#x26;languageId=en_GB&am
p;b=7110&#x26;t=1642173726863" id="liferayPortalCSS" rel="stylesheet"
type="text/css"/>
<link data-senna-track="temporary" href="/combo?browserId=other&#x26;minifierType
=&#x26;themeId=ntnutheme_WAR_ntnutheme&#x26;languageId=en_GB&#x26;b=7110&#x26;com_li
feray_journal_content_web_portlet_JournalContentPortlet_INSTANCE_E755:%2Fcss%2Fm
ain.css&#x26;com_liferay_portal_search_web_search_bar_portlet_SearchBarPortlet_IN
STANCE_templateSearch:%2Fsearch%2Fbar%2Fcss%2Fmain.css&#x26;com_liferay_product_n
avigation_product_menu_web_portlet_ProductMenuPortlet:%2Fcss%2Fmain.css&#x26;com_
liferay_site_navigation_menu_web_portlet_SiteNavigationMenuPortlet_INSTANCE_plid
_620363:%2Fcss%2Fmain.css&#x26;t=1642170190000" id="1aa7fff2" rel="stylesheet"
type="text/css"/>
<script data-senna-track="temporary" type="text/javascript">
    // <![CDATA[
        var Liferay = Liferay || {};

        Liferay.Browser = {
            acceptsGzip: function() {
                return true;
            },

            getMajorVersion: function() {
                return 97.0;
            },

            getRevision: function() {
                return '537.36';
            },
            getVersion: function() {
                return '97.0';
            },

            isAir: function() {
                return false;
            },
            isChrome: function() {
                return true;
            },
            isEdge: function() {
                return false;
            }
        }
    ]>

```

```

    },
    isFirefox: function() {
        return false;
    },
    isGecko: function() {
        return true;
    },
    isIe: function() {
        return false;
    },
    isIphone: function() {
        return false;
    },
    isLinux: function() {
        return false;
    },
    isMac: function() {
        return false;
    },
    isMobile: function() {
        return false;
    },
    isMozilla: function() {
        return false;
    },
    isOpera: function() {
        return false;
    },
    isRtf: function() {
        return true;
    },
    isSafari: function() {
        return true;
    },
    isSun: function() {
        return false;
    },
    isWebKit: function() {
        return true;
    },
    isWindows: function() {
        return true;
    }
};

Liferay.Data = Liferay.Data || {};

```

```

Liferay.Data.ICON_INLINE_SVG = true;

Liferay.Data.NAV_SELECTOR = '#navigation';

Liferay.Data.NAV_SELECTOR_MOBILE = '#navigationCollapse';

Liferay.Data.isCustomizationView = function() {
    return false;
};

Liferay.Data.notices = [
    null

];

Liferay.PortletKeys = {
    DOCUMENT_LIBRARY:
'com_liferay_document_library_web_portlet_DLPortlet',
    DYNAMIC_DATA_MAPPING:
'com_liferay_dynamic_data_mapping_web_portlet_DDMPortlet',
    ITEM_SELECTOR:
'com_liferay_item_selector_web_portlet_ItemSelectorPortlet'
};

Liferay.PropsValues = {
    JAVASCRIPT_SINGLE_PAGE_APPLICATION_TIMEOUT: 0,
    NTLM_AUTH_ENABLED: false,
    UPLOAD_SERVLET_REQUEST_IMPL_MAX_SIZE: 90085760000
};

Liferay.ThemeDisplay = {

    getLayoutId: function() {
        return '3';
    },

    getLayoutRelativeControlPanelURL: function() {
        return
'/group/guest/~/control_panel/manage';
    }
};

```

```

    },

    getLayoutRelativeURL: function() {
        return '/faculties';
    },
    getLayoutURL: function() {
        return 'https://www.ntnu.edu/faculties';
    },
    getParentLayoutId: function() {
        return '2';
    },
    isControlPanel: function() {
        return false;
    },
    isPrivateLayout: function() {
        return 'false';
    },
    isVirtualLayout: function() {
        return false;
    },

    getBCP47LanguageId: function() {
        return 'en-GB';
    },
    getCanonicalURL: function() {

        return
        'https\x3a\x2f\x2fwww\x2entnu\x2eedu\x2ffaculties';
    },
    getCDNBaseUrl: function() {
        return 'https://www.ntnu.edu';
    },
    getCDNDynamicResourcesHost: function() {
        return '';
    },
    getCDNHost: function() {
        return '';
    },
    getCompanyGroupId: function() {
        return '4941134';
    },
    getCompanyId: function() {
        return '139202';
    },

```



```

getDefaultLanguageId: function() {
    return 'en_GB';
},
getDoAsUserIdEncoded: function() {
    return '';
},
getLanguageId: function() {
    return 'en_GB';
},
getParentGroupId: function() {
    return '139226';
},
getPathContext: function() {
    return '';
},
getPathImage: function() {
    return '/image';
},
getPathJavaScript: function() {
    return '/o/frontend-js-web';
},
getPathMain: function() {
    return '/c';
},
getPathThemeImages: function() {
    return 'https://www.ntnu.edu/o/ntnu-
theme/images';
},
getPathThemeRoot: function() {
    return '/o/ntnu-theme';
},
getPlid: function() {
    return '620363';
},
getPortalURL: function() {
    return 'https://www.ntnu.edu';
},
getScopeGroupId: function() {
    return '139226';
},
getScopeGroupIdOrLiveGroupId: function() {
    return '139226';
},
getSessionId: function() {
    return '';
},
getSiteAdminURL: function() {

```

```

        return 'https://www.ntnu.edu/group/guest/~/control_panel/manage?p_p_lifecycle=0&p_p_state=maximized&p_p_mode=view';
    },
    getSiteGroupId: function() {
        return '139226';
    },
    getURLControlPanel: function() {
        return
'/group/control_panel?refererPlid=620363';
    },
    getURLHome: function() {
        return
'https\x3a\x2f\x2fwww\x2entnu\x2eedu\x2fweb\x2fguest';
    },
    getUserEmailAddress: function() {
        return '';
    },
    getUserId: function() {
        return '139205';
    },
    getUsername: function() {
        return '';
    },
    isAddSessionIdToURL: function() {
        return false;
    },
    isFreeformLayout: function() {
        return false;
    },
    isImpersonated: function() {
        return false;
    },
    isSignedIn: function() {
        return false;
    },
    isStateExclusive: function() {
        return false;
    },
    isStateMaximized: function() {
        return false;
    },
    isStatePopUp: function() {
        return false;
    }
};

var themeDisplay = Liferay.ThemeDisplay;

```

```

Liferay.AUI = {

    getAvailableLangPath: function() {
        return 'available_languages.jsp?browserId=other&
themeId=ntnutheme_WAR_ntnutheme&colorSchemeId=01&minifierType=js&languageId=en_GB&b=7110&t=1642173725210';
    },
    getCombine: function() {
        return true;
    },
    getComboPath: function() {
        return '/combo/?browserId=other&minifierType=&languageId=en_GB&b=7110&t=1642173727277&';
    },
    getDateFormat: function() {
        return '%d/%m/%Y';
    },
    getEditorCKEditorPath: function() {
        return '/o/frontend-editor-ckeditor-web';
    },
    getFilter: function() {
        var filter = 'raw';

        filter = 'min';

        return filter;
    },
    getFilterConfig: function() {
        var instance = this;

        var filterConfig = null;

        if (!instance.getCombine()) {
            filterConfig = {
                replaceStr: '.js' +
instance.getStaticResourceURLParams(),
                searchExp: '\\.js$'
            };
        }
    }
}

```

```

        return filterConfig;
    },
    getJavaScriptRootPath: function() {
        return '/o/frontend-js-web';
    },
    getLangPath: function() {
        return 'auilang.jsp?browserId=other&themeId=ntn
utheme_WAR_ntnutheme&colorSchemeId=01&minifierType=js&languageId=en_GB&b=7110&t=
1642173727277';
    },
    getPortletRootPath: function() {
        return '/html/portlet';
    },
    getStaticResourceURLParams: function() {
        return
'?browserId=other&minifierType=&languageId=en_GB&b=7110&t=1642173727277';
    }
};

Liferay.authToken = 'lPsnf2Q6';

Liferay.currentURL = '\x2ffaculties';
Liferay.currentURLEncoded = '\x252Ffaculties';

// ]]>
</script>
<script src="/o/js_loader_modules?t=1642173739389"
type="text/javascript"></script>
<script src="/o/js_loader_config?t=1642173739766"
type="text/javascript"></script>
<script data-senna-track="permanent" src="/combo?browserId=other&minifierTyp
e=js&languageId=en_GB&b=7110&t=1642173727277&/o/frontend-js-
web/jquery/jquery.js&/o/frontend-js-web/clay/popper.js&/o/frontend-js-
web/clay/bootstrap.js&/o/frontend-js-web/auilang/auilang.js&/o/frontend-js-
web/auilang/auilang-base-html5-shiv/auilang-base-html5-shiv.js&/o/frontend-js-
web/liferay/browser_selectors.js&/o/frontend-js-
web/liferay/modules.js&/o/frontend-js-
web/liferay/auilang_sandbox.js&/o/frontend-js-web/clay/collapsible-
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complex.js& /o/frontend-js-web/ai/attribute-core/attribute-
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```

```

        // ]]>
</script>
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theme-contributor/product_navigation_product_menu.css&o/product-navigation-
control-menu-theme-contributor/product_navigation_control_menu.css"
rel="stylesheet" type="text/css"/>
<script data-senna-track="permanent" src="https://www.ntnu.edu/combo?browserId=o
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;o/product-navigation-control-menu-theme-
contributor/product_navigation_control_menu.js" type="text/javascript"></script>
<script data-senna-track="temporary" type="text/javascript">
    if (window.Analytics) {
        window._com_liferay_document_library_analytics_isViewFileEntry =
false;
    }
</script>
<script type="text/javascript">
// <![CDATA[
Liferay.on(
    'ddmFieldBlur', function(event) {
        if (window.Analytics) {
            Analytics.send(
                'fieldBlurred',
                'Form',
                {
                    fieldName: event.fieldName,
                    focusDuration: event.focusDuration,
                    formId: event.formId,
                    page: event.page - 1
                }
            );
        }
    }
);

Liferay.on(

```

```

        'ddmFieldFocus', function(event) {
            if (window.Analytics) {
                Analytics.send(
                    'fieldFocused',
                    'Form',
                    {
                        fieldName: event.fieldName,
                        formId: event.formId,
                        page: event.page - 1
                    }
                );
            }
        }
    );

    Liferay.on(
        'ddmFormPageShow', function(event) {
            if (window.Analytics) {
                Analytics.send(
                    'pageViewed',
                    'Form',
                    {
                        formId: event.formId,
                        page: event.page,
                        title: event.title
                    }
                );
            }
        }
    );

    Liferay.on(
        'ddmFormSubmit', function(event) {
            if (window.Analytics) {
                Analytics.send(
                    'formSubmitted',
                    'Form',
                    {
                        formId: event.formId
                    }
                );
            }
        }
    );

    Liferay.on(
        'ddmFormView', function(event) {

```



```

        if (window.Analytics) {
            Analytics.send(
                'formViewed',
                'Form',
                {
                    formId: event.formId,
                    title: event.title
                }
            );
        }
    }
};
// ]]>
</script>
<script src="/combo/?browserId=other&minifierType=&languageId=en_GB&b=7110&t=1642173727277&o/js/resolved-module/frontend-js-metal-web$metal@2.16.8/lib/coreNamed.js&o/js/resolved-module/frontend-js-metal-web$metal@2.16.8/lib/core.js&o/js/resolved-module/frontend-js-metal-web$metal@2.16.8/lib/array/array.js&o/js/resolved-module/frontend-js-metal-web$metal@2.16.8/lib/async/async.js&o/js/resolved-module/frontend-js-metal-web$metal@2.16.8/lib/disposable/Disposable.js&o/js/resolved-module/frontend-js-metal-web$metal@2.16.8/lib/object/object.js&o/js/resolved-module/frontend-js-metal-web$metal@2.16.8/lib/string/string.js&o/js/resolved-module/frontend-js-metal-web$metal@2.16.8/lib/metal.js&o/js/resolved-module/frontend-js-metal-web$metal-component@2.16.8/lib/events/events.js&o/js/resolved-module/frontend-js-metal-web$metal-component@2.16.8/lib/sync/sync.js&o/js/resolved-module/frontend-js-metal-web$metal-dom@2.16.8/lib/domData.js&o/js/resolved-module/frontend-js-metal-web$metal-events@2.16.8/lib/EventHandle.js&o/js/resolved-module/frontend-js-metal-web$metal-events@2.16.8/lib/EventEmitter.js&o/js/resolved-module/frontend-js-metal-web$metal-events@2.16.8/lib/EventEmitterProxy.js&o/js/resolved-module/frontend-js-metal-web$metal-events@2.16.8/lib/EventHandler.js&o/js/resolved-module/frontend-js-metal-web$metal-events@2.16.8/lib/events.js&o/js/resolved-module/frontend-js-metal-web$metal-dom@2.16.8/lib/DomDelegatedEventHandle.js&o/js/resolved-module/frontend-js-metal-web$metal-dom@2.16.8/lib/DomEventHandle.js&o/js/resolved-module/frontend-js-metal-web$metal-dom@2.16.8/lib/domNamed.js&o/js/resolved-module/frontend-js-metal-web$metal-dom@2.16.8/lib/dom.js&o/js/resolved-module/frontend-js-metal-web$metal-dom@2.16.8/lib/DomEventEmitterProxy.js&o/js/resolved-module/frontend-js-metal-web$metal-dom@2.16.8/lib/features.js&o/js/resolved-module/frontend-js-metal-web$metal-dom@2.16.8/lib/globalEval.js"></script><script src="/combo/?browserId=other&minifierType=&languageId=en_GB&b=7110&t=1642173727277&o/js/resolved-module/frontend-js-metal-web$metal-

```

dom@2.16.8/lib/globalEvalStyles.js&/o/js/resolved-module/frontend-js-metal-web\$metal-dom@2.16.8/lib/events.js&/o/js/resolved-module/frontend-js-metal-web\$metal-dom@2.16.8/lib/all/dom.js&/o/js/resolved-module/frontend-js-metal-web\$metal-state@2.16.8/lib/validators.js&/o/js/resolved-module/frontend-js-metal-web\$metal-state@2.16.8/lib/Config.js&/o/js/resolved-module/frontend-js-metal-web\$metal-state@2.16.8/lib/State.js&/o/js/resolved-module/frontend-js-metal-web\$metal-state@2.16.8/lib/all/state.js&/o/js/resolved-module/frontend-js-metal-web\$metal-component@2.16.8/lib/ComponentDataManager.js&/o/js/resolved-module/frontend-js-metal-web\$metal-component@2.16.8/lib/ComponentRenderer.js&/o/js/resolved-module/frontend-js-metal-web\$metal-component@2.16.8/lib/Component.js&/o/js/resolved-module/frontend-js-metal-web\$metal-component@2.16.8/lib/ComponentRegistry.js&/o/js/resolved-module/frontend-js-metal-web\$metal-component@2.16.8/lib/all/component.js&/o/js/resolved-module/frontend-taglib-clay\$clay-component@2.20.2/lib/ClayComponent.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/html/HTMLParser.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/html/unescape.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/html/HTML2IncDom.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@0.5.1/dist/incremental-dom-cjs.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom-string@0.0.3/lib/incremental-dom-string.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/incremental-dom.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/data.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/changes.js"></script><script src="/combo/?browserId=other&minifierType=&languageId=en_GB&b=7110&t=1642173727277&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/callArgs.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/incremental-dom-aop.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/children/children.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/render/attributes.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/cleanup/unused.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/render/render.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/render/patch.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/IncrementalDomRenderer.js&/o/js/resolved-module/frontend-js-metal-web\$metal-incremental-dom@2.16.8/lib/all/incremental-dom.js&/o/js/resolved-module/frontend-js-metal-web\$metal-soy-bundle@2.16.8/lib/bundle.js&/o/js/resolved-module/frontend-js-metal-web\$metal-soy@2.16.8/lib/SoyAop.js&/o/js/resolved-module/frontend-js-metal-web\$metal-soy@2.16.8/lib/Soy.js&/o/js/resolved-module/frontend-js-metal-web\$metal-position@2.1.2/lib/Geometry.js&/o/js/resolved-module/frontend-js-

```

metal-web$metal-position@2.1.2/lib/Position.js&#amp;/o/js/resolved-
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taglib-clay$clay-tooltip@2.20.2/lib/ClayTooltip.soy.js&#amp;/o/js/resolved-
module/frontend-taglib-clay$clay-
tooltip@2.20.2/lib/ClayTooltip.js&#amp;/o/js/resolved-module/frontend-taglib-
clay@1.4.15/bridge/clay-tooltip/src/ClayTooltip.js"></script></head>
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<nav class="quick-access-nav" id="yqea_quickAccessNav">
<h1 class="hide-accessible">Navigation</h1>
<ul>
<li><a href="#main-content">Skip to Content</a></li>
</ul>
</nav>
<div class="mb-0 pt-0" id="wrapper">
<header id="banner">
<div class="navbar navbar-classic navbar-expand-md navbar-light shadow-ntnu bgc-
white light bgh-s" id="navigation">
<div class="container">
<a href="/" id="home_href">

</a>
<h1 class="sr-only">ntnu.edu</h1>
<div>
<button aria-controls="searchCollapse" aria-expanded="false" aria-label="Toggle
search" class="navbar-toggler navbar-toggler-right" data-
target="#searchCollapse" data-toggle="collapse" type="button">
<span class="search-toggler-icon"></span>
</button>
<button aria-controls="navigationCollapse" aria-expanded="false" aria-
label="Toggle navigation" class="navbar-toggler navbar-toggler-right" data-
target="#navigationCollapse" data-toggle="collapse" type="button">
<span class="navbar-toggler-icon"></span>
</button>
</div>
<div aria-expanded="false" class="collapse navbar-collapse"
id="navigationCollapse">
<ul aria-label="Site Pages" class="navbar-blank navbar-nav navbar-site"
id="yui_patched_v3_18_1_1_1642499923715_94" role="menubar">
<li class="lfr-nav-item nav-item dropdown" id="gmenuitem_0_0"
role="presentation">
<a aria-haspopup="true" aria-labelledby="gmenuitem_0_0" class="nav-link text-
truncate dropdown-toggle" data-target="#" data-toggle="dropdown" href="/studies-
ntnu-landing" id="yui_patched_v3_18_1_1_1642499923715_113" role="menuitem"

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tabindex="0">
<span class="text-truncate">Studies          <span class="lfr-nav-child-
toggle">
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angle-down" focusable="false" viewBox="0 0 512 512">
<path class="lexicon-icon-outline" d="M256 384c6.936-0.22 13.81-2.973
19.111-8.2721227.221-227.221c11.058-11.026 11.058-28.941
0-39.999-11.026-11.058-28.94-11.058-39.999 01-206.333 206.333c0
0-206.333-206.333-206.333-11.059-11.058-28.973-11.058-39.999 0-11.059
11.058-11.059 28.972 0 39.9991227.221 227.221c5.3 5.3 12.174 8.053 19.111
8.272z"></path>
</svg></span> </span>
</span>
</a>
<ul aria-expanded="false" class="child-menu dropdown-menu" role="menu">
<li id="gmenuitem_1_0_Master's_programmes_in_English" role="presentation">
<a aria-labelledby="gmenuitem_1_0_Master's_programmes_in_English"
class="dropdown-item" href="/studies/international/master"
id="yui_patched_v3_18_1_1_1642499923715_115" role="menuitem"
tabindex="-1">Master's programmes in English</a>
</li>
<li id="gmenuitem_1_1_For_exchange_students" role="presentation">
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role="menuitem" tabindex="-1">For exchange students</a>
</li>
<li id="gmenuitem_1_2_PhD_opportunities" role="presentation">
<a aria-labelledby="gmenuitem_1_2_PhD_opportunities" class="dropdown-item"
href="/phd" id="yui_patched_v3_18_1_1_1642499923715_119" role="menuitem"
tabindex="-1">PhD opportunities</a>
</li>
<li id="gmenuitem_1_3_All_programmes_of_study" role="presentation">
<a aria-labelledby="gmenuitem_1_3_All_programmes_of_study" class="dropdown-item"
href="/studies/allstudies" id="yui_patched_v3_18_1_1_1642499923715_121"
role="menuitem" tabindex="-1">All programmes of study</a>
</li>
<li id="gmenuitem_1_4_Courses" role="presentation">
<a aria-labelledby="gmenuitem_1_4_Courses" class="dropdown-item"
href="/studies/courses" id="yui_patched_v3_18_1_1_1642499923715_123"
role="menuitem" tabindex="-1">Courses</a>
</li>
<li id="gmenuitem_1_5_Financing" role="presentation">
<a aria-labelledby="gmenuitem_1_5_Financing" class="dropdown-item"
href="/studies/financing-and-scholarships"
id="yui_patched_v3_18_1_1_1642499923715_125" role="menuitem"
tabindex="-1">Financing</a>
</li>

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<li id="gmenuitem_1_6_Language_requirements" role="presentation">
<a aria-labelledby="gmenuitem_1_6_Language_requirements" class="dropdown-item"
href="/studies/langcourses" id="yui_patched_v3_18_1_1_1642499923715_127"
role="menuitem" tabindex="-1">Language requirements</a>
</li>
<li id="gmenuitem_1_7_Application_process" role="presentation">
<a aria-labelledby="gmenuitem_1_7_Application_process" class="dropdown-item"
href="/studies/application" id="yui_patched_v3_18_1_1_1642499923715_129"
role="menuitem" tabindex="-1">Application process</a>
</li>
<li id="gmenuitem_1_8_Academic_calendar" role="presentation">
<a aria-labelledby="gmenuitem_1_8_Academic_calendar" class="dropdown-item"
href="/studies/academiccalendar" id="yui_patched_v3_18_1_1_1642499923715_131"
role="menuitem" tabindex="-1">Academic calendar</a>
</li>
<li id="gmenuitem_1_10_FAQ" role="presentation">
<a aria-labelledby="gmenuitem_1_10_FAQ" class="dropdown-item"
href="/studies/faq" id="yui_patched_v3_18_1_1_1642499923715_133" role="menuitem"
tabindex="-1">FAQ</a>
</li>
</ul>
</li>
<li class="lfr-nav-item nav-item dropdown" id="gmenuitem_0_1"
role="presentation">
<a aria-haspopup="true" aria-labelledby="gmenuitem_0_1" class="nav-link text-
truncate dropdown-toggle" data-target="#" data-toggle="dropdown"
href="/research" id="yui_patched_v3_18_1_1_1642499923715_135" role="menuitem"
tabindex="-1">
<span class="text-truncate">Research and innovation <span
class="lfr-nav-child-toggle">
<span id="jbfs_""><svg aria-hidden="true" class="lexicon-icon lexicon-icon-
angle-down" focusable="false" viewBox="0 0 512 512">
<path class="lexicon-icon-outline" d="M256 384c6.936-0.22 13.81-2.973
19.111-8.2721227.221-227.221c11.058-11.026 11.058-28.941
0-39.999-11.026-11.058-28.94-11.058-39.999 01-206.333 206.333c0
0-206.333-206.333-206.333-11.059-11.058-28.973-11.058-39.999 0-11.059
11.058-11.059 28.972 0 39.9991227.221 227.221c5.3 5.3 12.174 8.053 19.111
8.272z"></path>
</svg></span> </span>
</a>
<ul aria-expanded="false" class="child-menu dropdown-menu" role="menu">
<li id="gmenuitem_1_0_NTNU_research" role="presentation">
<a aria-labelledby="gmenuitem_1_0_NTNU_research" class="dropdown-item"
href="/research" id="yui_patched_v3_18_1_1_1642499923715_137" role="menuitem"
tabindex="-1">NTNU research</a>
</li>

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```

<li id="gmenuitem_1_1_Research_excellence" role="presentation">
<a aria-labelledby="gmenuitem_1_1_Research_excellence" class="dropdown-item"
href="/research/research-excellence"
id="yui_patched_v3_18_1_1_1642499923715_139" role="menuitem"
tabindex="-1">Research excellence</a>
</li>
<li id="gmenuitem_1_2_Strategic_research_areas" role="presentation">
<a aria-labelledby="gmenuitem_1_2_Strategic_research_areas" class="dropdown-
item" href="/research/strategicareas"
id="yui_patched_v3_18_1_1_1642499923715_141" role="menuitem"
tabindex="-1">Strategic research areas</a>
</li>
<li id="gmenuitem_1_3_Innovation_resources" role="presentation">
<a aria-labelledby="gmenuitem_1_3_Innovation_resources" class="dropdown-item"
href="/innovation-resources" id="yui_patched_v3_18_1_1_1642499923715_143"
role="menuitem" tabindex="-1">Innovation resources</a>
</li>
<li id="gmenuitem_1_4_Experts" role="presentation">
<a aria-labelledby="gmenuitem_1_4_Experts" class="dropdown-item"
href="/research/experts" id="yui_patched_v3_18_1_1_1642499923715_145"
role="menuitem" tabindex="-1">Experts</a>
</li>
<li id="gmenuitem_1_5_PhD_opportunities" role="presentation">
<a aria-labelledby="gmenuitem_1_5_PhD_opportunities" class="dropdown-item"
href="/phd" id="yui_patched_v3_18_1_1_1642499923715_147" role="menuitem"
tabindex="-1">PhD opportunities</a>
</li>
</ul>
</li>
<li class="lfr-nav-item nav-item dropdown" id="gmenuitem_0_1"
role="presentation">
<a aria-haspopup="true" aria-labelledby="gmenuitem_0_1" class="nav-link text-
truncate dropdown-toggle" data-target="#" data-toggle="dropdown" href="/living-
in-trondheim-landing" id="yui_patched_v3_18_1_1_1642499923715_149"
role="menuitem" tabindex="-1">
<span class="text-truncate">Life and housing<span class="lfr-nav-
child-toggle">
<span id="uvlz_><svg aria-hidden="true" class="lexicon-icon lexicon-icon-
angle-down" focusable="false" viewBox="0 0 512 512">
<path class="lexicon-icon-outline" d="M256 384c6.936-0.22 13.81-2.973
19.111-8.2721227.221-227.221c11.058-11.026 11.058-28.941
0-39.999-11.026-11.058-28.94-11.058-39.999 01-206.333 206.333c0
0-206.333-206.333-206.333-11.059-11.058-28.973-11.058-39.999 0-11.059
11.058-11.059 28.972 0 39.9991227.221 227.221c5.3 5.3 12.174 8.053 19.111
8.272z"></path>
</svg></span> </span>
</span>

```

```

</a>
<ul aria-expanded="false" class="child-menu dropdown-menu" role="menu">
<li id="gmenuitem_1_0_Student_in_Trondheim" role="presentation">
<a aria-labelledby="gmenuitem_1_0_Student_in_Trondheim" class="dropdown-item"
href="/lifeandhousing/trondheim" id="yui_patched_v3_18_1_1_1642499923715_151"
role="menuitem" tabindex="-1">Student in Trondheim</a>
</li>
<li id="gmenuitem_1_1_Student_in_Gjøvik" role="presentation">
<a aria-labelledby="gmenuitem_1_1_Student_in_Gjøvik" class="dropdown-item"
href="/lifeandhousing/gjovik" id="yui_patched_v3_18_1_1_1642499923715_153"
role="menuitem" tabindex="-1">Student in Gjøvik</a>
</li>
<li id="gmenuitem_1_3_Student_in_Ålesund" role="presentation">
<a aria-labelledby="gmenuitem_1_3_Student_in_Ålesund" class="dropdown-item"
href="/lifeandhousing/alesund" id="yui_patched_v3_18_1_1_1642499923715_155"
role="menuitem" tabindex="-1">Student in Ålesund</a>
</li>
<li id="gmenuitem_1_4_For_researchers" role="presentation">
<a aria-labelledby="gmenuitem_1_4_For_researchers" class="dropdown-item"
href="/nirs" id="yui_patched_v3_18_1_1_1642499923715_157" role="menuitem"
tabindex="-1">For researchers</a>
</li>
<li id="gmenuitem_1_5_Life_and_housing" role="presentation">
<a aria-labelledby="gmenuitem_1_5_Life_and_housing" class="dropdown-item"
href="/lifeandhousing" id="yui_patched_v3_18_1_1_1642499923715_159"
role="menuitem" tabindex="-1">Life and housing</a>
</li>
</ul>
</li>
<li class="lfr-nav-item nav-item dropdown" id="gmenuitem_0_2"
role="presentation">
<a aria-haspopup="true" aria-labelledby="gmenuitem_0_2" class="nav-link text-
truncate dropdown-toggle" data-target="#" data-toggle="dropdown" href="/landing-
about-ntnu" id="yui_patched_v3_18_1_1_1642499923715_161" role="menuitem"
tabindex="-1">
<span class="text-truncate">About NTNU<span class="lfr-nav-child-
toggle">
<span id="ored___"><svg aria-hidden="true" class="lexicon-icon lexicon-icon-
angle-down" focusable="false" viewBox="0 0 512 512">
<path class="lexicon-icon-outline" d="M256 384c6.936-0.22 13.81-2.973
19.111-8.2721227.221-227.221c11.058-11.026 11.058-28.941
0-39.999-11.026-11.058-28.94-11.058-39.999 01-206.333 206.333c0
0-206.333-206.333-206.333-206.333-11.059-11.058-28.973-11.058-39.999 0-11.059
11.058-11.059 28.972 0 39.9991227.221 227.221c5.3 5.3 12.174 8.053 19.111
8.272z"></path>
</svg></span> </span>
</span>

```

```

</a>
<ul aria-expanded="false" class="child-menu dropdown-menu" role="menu">
<li id="gmenuitem_1_0_Contact_us" role="presentation">
<a aria-labelledby="gmenuitem_1_0_Contact_us" class="dropdown-item"
href="/contact" id="yui_patched_v3_18_1_1_1642499923715_163" role="menuitem"
tabindex="-1">Contact us</a>
</li>
<li id="gmenuitem_1_1_Faculties_and_departments" role="presentation">
<a aria-labelledby="gmenuitem_1_1_Faculties_and_departments" class="dropdown-
item" href="/faculties" id="yui_patched_v3_18_1_1_1642499923715_165"
role="menuitem" tabindex="-1">Faculties and departments</a>
</li>
<li id="gmenuitem_1_3_Libraries" role="presentation">
<a aria-labelledby="gmenuitem_1_3_Libraries" class="dropdown-item" href="/ub"
id="yui_patched_v3_18_1_1_1642499923715_167" role="menuitem"
tabindex="-1">Libraries</a>
</li>
<li id="gmenuitem_1_4_International_researcher_support" role="presentation">
<a aria-labelledby="gmenuitem_1_4_International_researcher_support"
class="dropdown-item" href="/nirs" id="yui_patched_v3_18_1_1_1642499923715_169"
role="menuitem" tabindex="-1">International researcher support</a>
</li>
<li id="gmenuitem_1_5_Vacancies" role="presentation">
<a aria-labelledby="gmenuitem_1_5_Vacancies" class="dropdown-item"
href="/vacancies" id="yui_patched_v3_18_1_1_1642499923715_171" role="menuitem"
tabindex="-1">Vacancies</a>
</li>
<li id="gmenuitem_1_6_About_NTNU" role="presentation">
<a aria-labelledby="gmenuitem_1_6_About_NTNU" class="dropdown-item"
href="/about" id="yui_patched_v3_18_1_1_1642499923715_173" role="menuitem"
tabindex="-1">About NTNU</a>
</li>
<li id="gmenuitem_1_7_Maps" role="presentation">
<a aria-labelledby="gmenuitem_1_7_Maps" class="dropdown-item" href="/map"
id="yui_patched_v3_18_1_1_1642499923715_175" role="menuitem"
tabindex="-1">Maps</a>
</li>
</ul>
</li>
</ul>
</div>
<div aria-expanded="false" class="collapse navbar-collapse justify-content-end"
id="searchCollapse">
<div class="justify-content-end navbar-form my-2 my-md-0" role="search">
</div>
<div class="justify-content-end navbar-form my-2 my-md-0" role="search">
<form action="/sok" class="col-12" method="get">

```



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<fieldset class="fieldset">
<div class="input-group search-bar search-bar-simple">
<div class="input-group-item search-bar-keywords-input-wrapper">
<input class="form-control input-group-inset input-group-inset-after search-bar-
keywords-input" id="ntnu-search" name="query" placeholder="Search..."
title="Search" type="text" value=""/>
<div class="input-group-inset-item input-group-inset-item-after search-bar-
search-button-wrapper">
<button aria-label="Submit" class="btn search-bar-search-button btn-unstyled"
id="ntnu-search-act" type="submit">
<svg class="lexicon-icon lexicon-icon-search" focusable="false"
role="presentation" viewBox="0 0 512 512">
<path class="lexicon-icon-outline" d="M503.254
467.8611-133.645-133.645c27.671-35.13 44.344-79.327 44.344-127.415
0-113.784-92.578-206.362-206.362-206.362s-206.362 92.578-206.362 206.362
206.362 206.362 206.362c47.268 0 90.735-16.146 125.572-42.9691133.851
133.851c5.002 5.002 11.554 7.488 18.106 7.488s13.104-2.486
18.106-7.488c10.004-10.003 10.004-26.209 0.029-36.183zM52.446 206.801c0-85.558
69.616-155.173 155.173-155.173s155.174 69.616 155.174 155.173-69.616
155.173-155.173 155.173-155.173-69.616-155.173z"></path>
</svg>
</button>
</div>
</div>
</div>
</div>
</fieldset>
</form>
</div>
</div>
</div>
<div id="breadcrumbs">
<div class="container">
<div class="d-flex flex-column flex-sm-row align-items-stretch container">
<nav class="ntnu-crumb flex-grow w-100">
<div class="portlet-boundary portlet-
boundary_ntnubreadcrumbportlet_WAR_ntnubreadcrumbportlet_ portlet-static
portlet-static-end portlet-barebone"
id="p_p_id_ntnubreadcrumbportlet_WAR_ntnubreadcrumbportlet_INSTANCE_abcd_">
<span
id="p_ntnubreadcrumbportlet_WAR_ntnubreadcrumbportlet_INSTANCE_abcd"></span>
<section class="portlet"
id="portlet_ntnubreadcrumbportlet_WAR_ntnubreadcrumbportlet_INSTANCE_abcd">
<div class="portlet-content">
<div class="portlet-content-container">
<div class="portlet-body">
<ol class="breadcrumb">

```



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</header>
<section class="" id="content">
<h1 class="sr-only">Faculties and departments</h1>
<div class="ntnucolumns columns-3 pt-2" id="main-content" role="main">
<div class="container">
<div class="portlet-layout row menutogglerow">
<div class="portlet-column portlet-column-first col-md-3" id="column-menu">
<div id="ntnusidemenu">
<div class="hide" id="smclosebutton">
<a href="javascript:void(0)">x</a>
</div>
<div class="portlet-boundary portlet-
boundary_com_liferay_site_navigation_menu_web_portlet_SiteNavigationMenuPortlet_
portlet-static portlet-static-end portlet-barebone portlet-navigation" id="p_p_i
d_com_liferay_site_navigation_menu_web_portlet_SiteNavigationMenuPortlet_INSTANC
E_plid_620363">
<span id="p_com_liferay_site_navigation_menu_web_portlet_SiteNavigationMenuPortl
et_INSTANCE_plid_620363"></span>
<section class="portlet" id="portlet_com_liferay_site_navigation_menu_web_portle
t_SiteNavigationMenuPortlet_INSTANCE_plid_620363">
<div class="portlet-content">
<div class="portlet-content-container">
<div class="portlet-body">
<div aria-label="Site Pages" class="list-menu">
<ul class="layouts level-1">
<li class="lfr-nav-item open">
<a class="lfr-nav-item open" href="/about">About NTNU</a>
<ul class="layouts level-2">
<li class="lfr-nav-item open selected active">
<a class="lfr-nav-item open selected active" href="/faculties">Faculties and
departments</a>
</li>
<li class="lfr-nav-item">
<a class="lfr-nav-item" href="/about-ntnu/campuses">Campuses</a>
</li>
<li class="lfr-nav-item">
<a class="lfr-nav-item" href="/organization">Organization</a>
</li>
<li class="lfr-nav-item">
<a class="lfr-nav-item" href="/facts">Facts and figures</a>
</li>
<li class="lfr-nav-item">
<a class="lfr-nav-item" href="/ub">Libraries</a>
</li>
<li class="lfr-nav-item">
<a class="lfr-nav-item" href="/contact">Contact</a>
</li>

```



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<div class="portlet-content-container">
<div class="portlet-body">
<div class="text-right user-tool-asset-addon-entries">
</div>
<div class="clearfix journal-content-article" data-analytics-asset-id="30314"
data-analytics-asset-title="Faculties and departments at NTNU" data-analytics-
asset-type="web-content">
<div class="normal">
<h1>Faculties and departments at NTNU</h1>
<div class="innholdstekst"><p><a href="https://www.ntnu.edu/organizational-
chart">> Organizational chart</a></p>
<h2><a href="https://www.ntnu.edu/ad">Faculty of Architecture and Design
(AD)</a></h2>
<ul>
<li><a href="https://www.ntnu.edu/kit">Trondheim Academy of Fine Art</a></li>
<li><a href="https://www.ntnu.edu/design">Department of Design</a></li>
<li><a href="https://www.ntnu.edu/iat">Department of Architecture and
Technology</a></li>
<li><a href="https://www.ntnu.edu/iap">Department of Architecture and
Planning</a></li>
</ul>
<h2><a href="https://www.ntnu.edu/hf">Faculty of Humanities (HF)</a></h2>
<ul>
<li><a href="https://www.ntnu.edu/ifr">Department of Philosophy and Religious
Studies</a></li>
<li><a href="https://www.ntnu.edu/ihk">Department of Historical and Classical
Studies</a></li>
<li><a href="https://www.ntnu.edu/ims">Department of Modern History and
Society</a></li>
<li><a href="https://www.ntnu.edu/ikm">Department of Art and Media
Studies</a></li>
<li><a href="https://www.ntnu.edu/music">Department of Music</a></li>
<li><a href="https://www.ntnu.edu/isl">Department of Language and
Literature</a></li>
<li><a href="https://www.ntnu.edu/kult">Department of Interdisciplinary Studies
of Culture</a></li>
</ul>
<h2><a href="https://www.ntnu.edu/ie">Faculty of Information Technology and
Electrical Engineering (IE)</a></h2>
<ul>
<li><a href="https://www.ntnu.edu/idi">Department of Computer Science</a></li>
<li><a href="https://www.ntnu.edu/ies">Department of Electronic Systems</a></li>
<li><a href="https://www.ntnu.edu/elkraft">Department of Electric Power
Engineering</a></li>
<li><a href="https://www.ntnu.edu/iir">Department of ICT and Natural
Sciences</a></li>
<li><a href="https://www.ntnu.edu/iik">Department of Information Security and

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Communication Technology

- Department of Mathematical Sciences
- Department of Engineering Cybernetics

Department of Energy and Process Engineering - Department of Marine Technology - Department of Geoscience and Petroleum - Department of Civil and Environmental Engineering - Department of Structural Engineering - Department of Mechanical and Industrial Engineering - Department of Ocean Operations and Civil Engineering - Department of Manufacturing and Civil Engineering Department of Health Sciences in Gjøvik - Department of Health Sciences in Ålesund - Kavli Institute for Systems Neuroscience - Department of Clinical and Molecular Medicine - Department of Neuromedicine and Movement Science - Department of Mental Health - Department of Public Health and Nursing - Department of Circulation and Medical Imaging Department of Biology - Department of Biological Sciences

Ålesund

- [Department of Biotechnology and Food Science](https://www.ntnu.edu/ibt)
- [Department of Biomedical Laboratory Science](https://www.ntnu.edu/ibf)
- [Department of Physics](https://www.ntnu.edu/physics)
- [Department of Chemistry](https://www.ntnu.edu/chemistry)
- [Department of Chemical Engineering](https://www.ntnu.edu/chemeng)
- [Department of Materials Science and Engineering](https://www.ntnu.edu/ima)

[Faculty of Social and Educational Sciences \(SU\)](https://www.ntnu.edu/su)

- [Department of Geography](https://www.ntnu.edu/geography)
- [Department of Teacher Education](https://www.ntnu.edu/ilu)
- [Department of Education and Lifelong Learning](https://www.ntnu.edu/ipl)
- [Department of Social Work](https://www.ntnu.edu/isa)
- [Department of Sociology and Political Science](https://www.ntnu.edu/iss)
- [Department of Psychology](https://www.ntnu.edu/psychology)
- [Department of Social Anthropology](https://www.ntnu.edu/sosant)

[Faculty of Economics and Management \(OK\)](https://www.ntnu.edu/ok)

- [NTNU Business School](https://www.ntnu.edu/hhs)
- [Department of International Business](https://www.ntnu.edu/iif)
- [Department of Industrial Economics and Technology Management](https://www.ntnu.edu/iot)
- [Department of Economics](https://www.ntnu.edu/econ)

[NTNU University Museum \(VM\)](https://www.ntnu.edu/museum)

- [Department of Natural History](https://www.ntnu.edu/inh)
- [Department of Archaeology and Cultural History](https://www.ntnu.edu/iak)

18 Sep 2020

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<div class="content-metadata-asset-addon-entries">
</div>
</div>
</div>
</div>
</section>
</div>
</div>
</div>
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content-last" id="layout-column_column-4"></div>
</div>
</div>
</div>
</div>
<div class="portlet-boundary portlet-
boundary_globalalertportlet_WAR_globalalertportlet_ portlet-static portlet-
static-end portlet-borderless"
id="p_p_id_globalalertportlet_WAR_globalalertportlet_">
<span id="p_globalalertportlet_WAR_globalalertportlet"></span>
</div>
<form action="#" class="hide" id="hrefFm" method="post"
name="hrefFm"><span></span><input hidden="" type="submit"/></form> </section>
<div id="to-top" style="display: none">
<a href="#top"><i class="fa fa-chevron-circle-up fa-fw fa-4x"></i></a>
</div>
<footer class="bg-dark footer py-4 text-white-50" id="footer"
role="contentinfo">
<div class="container">
<div class="row">
<div class="col-3"></div>
<div class="col-6 align-self-center text-center mb-4 pb-4">

</div>
<div class="col-3"></div>
</div>
<div class="row d-flex justify-content-start justify-content-md-between align-
items-stretch align-self-stretch flex-wrap">
<div class="footer-info-column mx-2 my-4 flex-grow-1">
<h3>Studies</h3>
<ul>
<li><a href="https://www.ntnu.edu/studies/international/master">Master's
programmes in English</a></li>
<li><a href="https://www.ntnu.edu/studies/exchange">For exchange
students</a></li>

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<li><a href="https://www.ntnu.edu/phd">PhD opportunities</a></li>
<li><a href="https://www.ntnu.edu/studies/courses">Courses</a></li>
<li><a href="https://www.ntnu.edu/career">Career development</a></li>
<li><a href="https://www.ntnu.edu/continuing-education">Continuing
education</a></li>
<li><a href="https://www.ntnu.edu/studies/application">Application
process</a></li>
</ul>
</div>
<div class="footer-info-column mx-2 my-4 flex-grow-1">
<h3>Contact</h3>
<ul>
<li><a href="https://www.ntnu.edu/contact">Contact NTNU</a></li>
<li><a href="http://www.ntnu.edu/employees">Employees</a></li>
<li><a href="https://www.ntnu.edu/alumni">For alumni</a></li>
<li><a href="https://www.ntnu.edu/adm/komm/press_contacts">For press and
media</a></li>
<li><a href="https://www.ntnu.edu/nirs">Researcher support</a></li>
</ul>
</div>
<div class="footer-info-column mx-2 my-4 flex-grow-1">
<h3>Discover NTNU</h3>
<ul>
<li><a href="https://www.ntnu.edu/research/experts">Experts</a></li>
<li><a href="https://www.ntnu.edu/vacancies">Vacancies</a></li>
<li><a href="https://www.ntnu.edu/photo-library">Pictures from NTNU</a></li>
<li><a href="https://www.ntnu.edu/innovation-resources">Innovation
resources</a></li>
<li><a href="https://www.ntnu.edu/gjovik">NTNU in Gjøvik</a></li>
<li><a href="https://www.ntnu.edu/trondheim">NTNU in Trondheim</a></li>
<li><a href="https://www.ntnu.edu/alesund">NTNU in Ålesund</a></li>
<li><a href="https://www.ntnu.edu/map">Maps</a></li>
</ul>
</div>
<div class="footer-info-column mx-2 my-4 flex-grow-1">
<h3>About NTNU</h3>
<ul>
<li><a href="https://www.ntnu.edu/strategy">NTNU's strategy</a></li>
<li><a href="https://www.ntnu.edu/research/research-excellence">Research
excellence</a></li>
<li><a href="https://www.ntnu.edu/research/strategicareas">Strategic research
areas</a></li>
<li><a href="https://www.ntnu.edu/organizational-chart">Organizational
chart</a></li>
<li><a href="https://www.ntnu.edu/ub">Libraries</a></li>
<li><a href="https://www.ntnu.edu/about">About the university</a></li>
</ul>

```

```

</div>
<div class="footer-info-column mx-2 my-4 flex-grow-1">
<h3>Services</h3>
<ul>
<li><a href="https://i.ntnu.no/en/ansatt">For employees</a></li>
<li><a href="https://i.ntnu.no/en/student">For students</a></li>
<li><a href="https://innsida.ntnu.no/blackboard">Blackboard</a></li>
<li><a href="https://innsida.ntnu.no/">Intranet</a></li>
</ul>
</div>
</div>
<div class="row mt-2">
<div class="col"><hr/></div>
<div class="col align-self-center text-center text-nowrap text-small">
    Norwegian University of Science and Technology
</div>
<div class="col"><hr/></div>
</div>
<div class="row mt-2">
<div class="col-lg text-center text-white mb-4 mb-lg-0 text-small">
<a href="https://www.ntnu.edu/cookies">About cookies</a>
<br/>
<a href="https://www.ntnu.edu/privacy">Privacy policy</a>
<br/>
<a href="https://www.ntnu.edu/about-this-site">Editorial responsibility</a>
<br/>
<div class="portlet-boundary portlet-boundary_com_liferay_product_navigation_use
r_personal_bar_web_portlet_ProductNavigationUserPersonalBarPortlet_ portlet-
static portlet-static-end portlet-borderless portlet-user-personal-bar" id="p_p_
id_com_liferay_product_navigation_user_personal_bar_web_portlet_ProductNavigatio
nUserPersonalBarPortlet_">
<span id="p_com_liferay_product_navigation_user_personal_bar_web_portlet_Product
NavigationUserPersonalBarPortlet"></span>
<span class="sign-in text-default" role="presentation">
<a class="sign-in text-default" data-redirect="false"
href="https://www.ntnu.edu/c/portal/login?p_l_id=620363" id="_com_liferay_produc
t_navigation_user_personal_bar_web_portlet_ProductNavigationUserPersonalBarPortl
et_fehs___"><svg aria-hidden="true" class="lexicon-icon lexicon-icon-user"
focusable="false" viewBox="0 0 512 512">
<path class="lexicon-icon-outline" d="M438.4746,277.9082c-23.4189-26.7637-
50.791-47.8257-81.3574-62.6011c-1.773-0.8571-3.5547-1.6818-5.34-2.492
    C371.8131,190.2154,384,160.5065,384,128C384,57.4204,326.5791,0,256,0c-
70.5796,0-128,57.4204-128,128
    c0,32.5064,12.1868,62.2153,32.2226,84.8151c-1.7855,0.8102-3.5671,1.6349-
5.3403,2.4921
    c-30.5659,14.7754-57.938,35.8374-
81.3569,62.6011C26.1118,332.0957,0,403.8662,0,480c0,17.6729,14.3271,32,32,32s32-

```

```

14.3271,32-32
      c0-123.5137,86.1309-224,192-
224s192,100.4863,192,224c0,17.6729,14.3271,32,32,32s32-14.3271,32-32
      C512,403.8662,485.8877,332.0957,438.4746,277.9082z
M192,128c0-35.2896,28.7104-64,64-64c35.29,0,64,28.7104,64,64s-28.71,64-64,64
      C220.7104,192,192,163.2896,192,128z"></path>
</svg><span class="taglib-icon-label">Sign In</span></a>
</span>
</div>
</div>
</div>
<div class="row mt-5">
<div class="col text-center text-small">
<a class="trackedlink social-icon" href="https://www.twitter.com/NTNU"
title="NTNUs offisielle Twitterkonto">
<i aria-hidden="true" class="fab fa-twitter" title="Twitter"></i>
</a>
<a class="trackedlink social-icon" href="https://www.facebook.com/ntnu.no"
title="Facebooksider fra NTNU">
<i aria-hidden="true" class="fab fa-facebook-f" title="Facebook"></i>
</a>
<a class="trackedlink social-icon" href="https://www.instagram.com/ntnu"
title="NTNUs offisielle Instagramkonto">
<i aria-hidden="true" class="fab fa-instagram" title="Instagram"></i>
</a>
<a class="trackedlink social-icon" href="https://www.youtube.com/user/ntnuinfo"
title="NTNUs Youtubekonto">
<i aria-hidden="true" class="fa fa-play" title="Youtube"></i>
</a>
<a class="trackedlink social-icon" href="https://www.ntnu.no/aktuelt/blogger"
title="Blogger på NTNU">
<i aria-hidden="true" class="fa fa-rss" title="Blogger"></i>
</a>
</div>
</div>
</div>
</footer>
</div>
<script type="text/javascript">
// <![CDATA[

```

```

        Liferay.BrowserSelectors.run();

// ]]>
</script>
<script type="text/javascript">
    // <![CDATA[

        Liferay.currentURL = '\x2ffaculties';
        Liferay.currentURLEncoded = '\x252Ffaculties';

// ]]>
</script>
<script type="text/javascript">
    // <![CDATA[

        // ]]>
</script>
<script type="text/javascript">
// <![CDATA[
(function() {var $ = AUI.$;var _ = AUI._;
    var pathnameRegexp = /\documents\/(\d+)\\/(\d+)\\/(.+?)\/([^\&]+)/;

    function handleDownloadClick(event) {
        if (event.target.nodeName.toLowerCase() === 'a') {
            if (window.Analytics) {
                var anchor = event.target;
                var match =
pathnameRegexp.exec(anchor.pathname);

                if (match) {
                    var getParameterValue =
function(parameterName) {

                        var result = null;
                        var tmp = [];

                        anchor
                            .search
                            .substr(1)
                            .split("&")
                            .forEach(

```



```

document.body.addEventListener('click', handleDownloadClick);

var onDestroyPortlet = function() {
    document.body.removeEventListener('click', handleDownloadClick);
    Liferay.detach('destroyPortlet', onDestroyPortlet);
}

Liferay.on('destroyPortlet', onDestroyPortlet);
})();(function() {var $ = AUI.$;var _ = AUI._;
    var onVote = function(event) {
        if (window.Analytics) {
            Analytics.send(
                'VOTE',
                'Ratings',
                {
                    className: event.className,
                    classPK: event.classPK,
                    ratingType: event.ratingType,
                    score: event.score
                }
            );
        }
    }

    var onDestroyPortlet = function() {
        Liferay.detach('ratings:vote', onVote);
        Liferay.detach('destroyPortlet', onDestroyPortlet);
    }

    Liferay.on('ratings:vote', onVote);
    Liferay.on('destroyPortlet', onDestroyPortlet);
})();(function() {var $ = AUI.$;var _ = AUI._;
    var onDestroyPortlet = function() {
        Liferay.detach('messagePosted', onMessagePosted);
        Liferay.detach('destroyPortlet', onDestroyPortlet);
    }

    Liferay.on('destroyPortlet', onDestroyPortlet);

    var onMessagePosted = function(event) {
        if (window.Analytics) {
            Analytics.send(
                'posted',
                'Comment',
                {
                    className: event.className,
                    classPK: event.classPK,

```

```

        commentId: event.commentId,
        text: event.text
    }
    );
}
}

Liferay.on('messagePosted', onMessagePosted);
})();(function() {var $ = AUI.$;var _ = AUI._;
    var onShare = function(data) {
        if (window.Analytics) {
            Analytics.send(
                'shared',
                'SocialBookmarks',
                {
                    className: data.className,
                    classPK: data.classPK,
                    type: data.type,
                    url: data.url
                }
            );
        }
    }

    var onDestroyPortlet = function() {
        Liferay.detach('socialBookmarks:share', onShare);
        Liferay.detach('destroyPortlet', onDestroyPortlet);
    }

    Liferay.on('socialBookmarks:share', onShare);
    Liferay.on('destroyPortlet', onDestroyPortlet);
})();
if (Liferay.Data.ICON_INLINE_SVG) {
    svg4everybody(
        {
            attributeName: 'data-href',
            polyfill: true,
            validate: function (src, svg, use) {
                return !src || !src.startsWith('#');
            }
        }
    );
}

Liferay.Portlet.register('languageportlet_WAR_languageportlet_INSTANCE_abcd');
```

```

Liferay.Portlet.onLoad(
{
    canEditTitle: false,
    columnPos: 0,
    isStatic: 'end',
    namespacedId:
'p_p_id_languageportlet_WAR_languageportlet_INSTANCE_abcd_',
    portletId:
'languageportlet_WAR_languageportlet_INSTANCE_abcd',
    refreshURL: '\x2fc\x2fportal\x2frender_portlet\x3fp_l_id
\x3d620363\x26p_p_id\x3dlanguageportlet_WAR_languageportlet_INSTANCE_abcd\x26p_p
_lifecycle\x3d0\x26p_t_lifecycle\x3d0\x26p_p_state\x3dnormal\x26p_p_mode\x3dview
\x26p_p_col_id\x3dnull\x26p_p_col_pos\x3dnull\x26p_p_col_count\x3dnull\x26p_p_st
atic\x3d1\x26p_p_isolated\x3d1\x26currentURL\x3d\x252Ffaculties\x26settingsScope
\x3dportletInstance',
    refreshURLData: {}
}
);

```

```

Liferay.Portlet.register('com_liferay_site_navigation_menu_web_p
ortlet_SiteNavigationMenuPortlet_INSTANCE_plid_620363');

```

```

Liferay.Portlet.onLoad(
{
    canEditTitle: false,
    columnPos: 0,
    isStatic: 'end',
    namespacedId: 'p_p_id_com_liferay_site_navigation_menu_w
eb_portlet_SiteNavigationMenuPortlet_INSTANCE_plid_620363_',
    portletId: 'com_liferay_site_navigation_menu_web_portlet
_SiteNavigationMenuPortlet_INSTANCE_plid_620363',
    refreshURL: '\x2fc\x2fportal\x2frender_portlet\x3fp_l_id
\x3d620363\x26p_p_id\x3dcom_liferay_site_navigation_menu_web_portlet_SiteNavigat
ionMenuPortlet_INSTANCE_plid_620363\x26p_p_lifecycle\x3d0\x26p_t_lifecycle\x3d0\
x26p_p_state\x3dnormal\x26p_p_mode\x3dview\x26p_p_col_id\x3dnull\x26p_p_col_pos\
x3dnull\x26p_p_col_count\x3dnull\x26p_p_static\x3d1\x26p_p_isolated\x3d1\x26curr
entURL\x3d\x252Ffaculties\x26settingsScope\x3dportletInstance',
    refreshURLData: {}
}
);

```

```

Liferay.Portlet.register('com_liferay_journal_content_web_portle
t_JournalContentPortlet_INSTANCE_E755');

```



```

Liferay.Portlet.onLoad(
    {
        canEditTitle: false,
        columnPos: 0,
        isStatic: 'end',
        namespaceId: 'p_p_id_com_liferay_journal_content_web_po
rtlet_JournalContentPortlet_INSTANCE_E755_',
        portletId:
'com_liferay_journal_content_web_portlet_JournalContentPortlet_INSTANCE_E755',
        refreshURL: '\x2fc\x2fportal\x2frender_portlet\x3fp_l_id
\x3d620363\x26p_p_id\x3dcom_liferay_journal_content_web_portlet_JournalContentPo
rtlet_INSTANCE_E755\x26p_p_lifecycle\x3d0\x26p_t_lifecycle\x3d0\x26p_p_state\x3d
normal\x26p_p_mode\x3dview\x26p_p_col_id\x3dcolumn-
3\x26p_p_col_pos\x3d0\x26p_p_col_count\x3d1\x26p_p_isolated\x3d1\x26currentURL\x
3d\x252Ffaculties',
        refreshURLData: {}
    }
);

```

```

Liferay.Portlet.register('com_liferay_product_navigation_user_pe
rsonal_bar_web_portlet_ProductNavigationUserPersonalBarPortlet');

```

```

Liferay.Portlet.onLoad(
    {
        canEditTitle: false,
        columnPos: 0,
        isStatic: 'end',
        namespaceId: 'p_p_id_com_liferay_product_navigation_use
r_personal_bar_web_portlet_ProductNavigationUserPersonalBarPortlet_',
        portletId: 'com_liferay_product_navigation_user_personal
_bar_web_portlet_ProductNavigationUserPersonalBarPortlet',
        refreshURL: '\x2fc\x2fportal\x2frender_portlet\x3fp_l_id
\x3d620363\x26p_p_id\x3dcom_liferay_product_navigation_user_personal_bar_web_por
tlet_ProductNavigationUserPersonalBarPortlet\x26p_p_lifecycle\x3d0\x26p_t_lifecy
cle\x3d0\x26p_p_state\x3dnormal\x26p_p_mode\x3dview\x26p_p_col_id\x3dnull\x26p_p
_col_pos\x3dnull\x26p_p_col_count\x3dnull\x26p_p_static\x3d1\x26p_p_isolated\x3d
1\x26currentURL\x3d\x252Ffaculties\x26settingsScope\x3dportletInstance',
        refreshURLData: {}
    }
);

```

```

Liferay.Portlet.register('globalalertportlet_WAR_globalalertportlet');

```

```

Liferay.Portlet.onLoad(
    {
        canEditTitle: false,
        columnPos: 0,
        isStatic: 'end',
        namespacedId:
'p_p_id_globalalertportlet_WAR_globalalertportlet_',
        portletId: 'globalalertportlet_WAR_globalalertportlet',
        refreshURL: '\x2fc\x2fportal\x2frender_portlet\x3fp_l_id
\x3d620363\x26p_p_id\x3dglobalalertportlet_WAR_globalalertportlet\x26p_p_lifecyc
le\x3d0\x26p_t_lifecycle\x3d0\x26p_p_state\x3dnormal\x26p_p_mode\x3dview\x26p_p_
col_id\x3dnull\x26p_p_col_pos\x3dnull\x26p_p_col_count\x3dnull\x26p_p_static\x3d
1\x26p_p_isolated\x3d1\x26currentURL\x3d\x252Ffaculties\x26settingsScope\x3dport
letInstance',
        refreshURLData: {}
    }
);

```

```

Liferay.Portlet.register('ntnubbreadcrumbportlet_WAR_ntnubbreadcru
mbportlet_INSTANCE_abcd');

```

```

Liferay.Portlet.onLoad(
    {
        canEditTitle: false,
        columnPos: 0,
        isStatic: 'end',
        namespacedId:
'p_p_id_ntnubbreadcrumbportlet_WAR_ntnubbreadcrumbportlet_INSTANCE_abcd_',
        portletId:
'ntnubbreadcrumbportlet_WAR_ntnubbreadcrumbportlet_INSTANCE_abcd',
        refreshURL: '\x2fc\x2fportal\x2frender_portlet\x3fp_l_id
\x3d620363\x26p_p_id\x3dntnubbreadcrumbportlet_WAR_ntnubbreadcrumbportlet_INSTANCE
_abcd\x26p_p_lifecycle\x3d0\x26p_t_lifecycle\x3d0\x26p_p_state\x3dnormal\x26p_p_
mode\x3dview\x26p_p_col_id\x3dnull\x26p_p_col_pos\x3dnull\x26p_p_col_count\x3dnu
ll\x26p_p_static\x3d1\x26p_p_isolated\x3d1\x26currentURL\x3d\x252Ffaculties\x26s
ettingsScope\x3dportletInstance',
        refreshURLData: {}
    }
);

Liferay.Loader.require('clay-tooltip/src/ClayTooltip',
function(clayTooltipSrcClayTooltip) {
(function(){
var ClayTooltip = clayTooltipSrcClayTooltip;

```

```

(function() {var $ = AUI.$;var _ = AUI._;
    if (!Liferay.Data.LFR_PORTAL_CLAY_TOOLTIP) {
        Liferay.Data.LFR_PORTAL_CLAY_TOOLTIP = ClayTooltip.default.init(
            {
                selectors: [
                    '.management-bar [data-title]:not(.lfr-
portal-tooltip)',
                    '.management-bar [title]:not(.lfr-
portal-tooltip)'
                ]
            }
        );
    }
})();});
},
function(error) {
    console.error(error);
});AUI().use('aui-tooltip', 'liferay-menu', 'liferay-notice', 'aui-base',
'liferay-navigation-interaction', 'liferay-session', 'liferay-poller',
function(A) {(function() {var $ = AUI.$;var _ = AUI._; var navigation =
A.one('#navigationCollapse');
    if (navigation) {
        navigation.plugin(Liferay.NavigationInteraction);
    }

    Liferay.Data.NAV_INTERACTION_LIST_SELECTOR = '.navbar-site';
    Liferay.Data.NAV_LIST_SELECTOR = '.navbar-site';

    var navline = document.getElementById("navigation");
    if (navline){
        var sticky = navline.offsetTop;
        function checkSticky() {
            if (window.pageYOffset > sticky) {
                navline.classList.add("sticky");
                document.body.style.paddingTop =
navline.offsetHeight + "px";
            }
            else {
                navline.classList.remove("sticky");
                document.body.style.paddingTop = "0px";
            }
        }
        window.addEventListener("scroll", checkSticky);
    }

})();(function() {var $ = AUI.$;var _ = AUI._;
    if (A.UA.mobile) {

```

```

        Liferay.Util.addInputCancel();
    }
})();(function() {var $ = AUI.$;var _ = AUI._;
    if (!Liferay.Data.LFR_PORTAL_TOOLTIP) {
        var triggerShowEvent = ['mouseenter', 'MSPointerDown',
'touchstart'];

        if (A.UA.ios) {
            triggerShowEvent = ['touchstart'];
        }

        Liferay.Data.LFR_PORTAL_TOOLTIP = new A.TooltipDelegate(
            {
                constrain: true,
                opacity: 1,
                trigger: '.lfr-portal-tooltip',
                triggerHideEvent: ['click', 'mouseleave',
'MSPointerUp', 'touchend'],
                triggerShowEvent: triggerShowEvent,
                visible: false,
                zIndex: Liferay.zIndex.TOOLTIP
            }
        );

        Liferay.on(
            'beforeNavigate',
            function(event) {
Liferay.Data.LFR_PORTAL_TOOLTIP.getTooltip().hide();
            }
        );
    }
})();(function() {var $ = AUI.$;var _ = AUI._;
    new Liferay.Menu();

    var liferayNotices = Liferay.Data.notices;

    for (var i = 1; i < liferayNotices.length; i++) {
        new Liferay.Notice(liferayNotices[i]);
    }

})();(function() {var $ = AUI.$;var _ = AUI._;
    Liferay.Session = new Liferay.SessionBase(
        {
            autoExtend: true,
            redirectOnExpire: false,
            redirectUrl:

```

```

'https\x3a\x2f\x2fwww\x2entnu\x2eedu\x2fweb\x2fguest',
    sessionLength: 890,
    warningLength: 0
}
);

})();});
// ]]>
</script>
<script src="https://www.ntnu.edu/o/ntnu-theme/js/main.js?browserId=other&mi
nifierType=js&languageId=en_GB&b=7110&t=1642170190000"
type="text/javascript"></script>
<script type="text/javascript">
    // <![CDATA[
        AUI().use(
            'aui-base',
            function(A) {
                var frameElement = window.frameElement;

                if (frameElement &&
frameElement.getAttribute('id') === 'simulationDeviceIframe') {
                    A.getBody().addClass('lfr-has-
simulation-panel');
                }
            }
        );
    // ]]>
</script>
<script>
// g gle analytics
(function(i,s,o,g,r,a,m){i['GoogleAnalyticsObject']=r;i[r]=i[r]||function(){
(i[r].q=i[r].q||[]).push(arguments)},i[r].l=1*new Date();a=s.createElement(o),
m=s.getElementsByTagName(o)[0];a.async=1;a.src=g;m.parentNode.insertBefore(a,m)
})(window,document,'script','//www.google-analytics.com/analytics.js','ga');

ga('create', 'UA-44249756-1', 'ntnu.edu', { 'cookieFlags': 'SameSite=None;
Secure' });

ga('set', 'anonymizeIp', true);
ga('send', 'pageview');

// g gle trackedlink
document.body.onclick=function(c){c=c||event;var
b=c.target||c.srcElement;if(b.nodeName!="A"){return}if((" "+b.className+"
").replace(/[\\t\\r\\n\\f]/g," ").indexOf(" trackedlink ")==-1){return}var
a=b.href;ga("send","event","trackedlink","click",a,{hitCallback:function(){}));

```

```
// siteimprøve analytics
(function() {
    var sz = document.createElement("script");
    sz.type = "text/javascript";
    sz.async = true;
    sz.src = "//siteimproveanalytics.com/js/siteanalyze_6000120.js";
    var s = document.getElementsByTagName("script")[0];
    s.parentNode.insertBefore(sz, s);
})();
</script>
<!-- include other additonal libs --->
<script src="https://www.ntnu.edu/o/ntnu-theme/js/jquery.tablesorter.js">
</script>
<script src="https://www.ntnu.edu/o/ntnu-theme/js/jquery.slider.js"> </script>
<div class="" id="yui3-css-stamp" style="position: absolute !important;
visibility: hidden !important"></div><div class="tooltip fade clay-tooltip-top"
role="tooltip" style="display: none;"><div class="arrow"></div><div
class="tooltip-inner"></div></div></body></html>
```

```
[ ]: departments = dict()
current_head = None

for data in soup.find(class_="innholdstekst"):
    tag = data.name
    # observe from the page that only "h2" and "ul" are valid root elements
    if tag == "h2":
        current_head = data.text
        print("current head: " + current_head)
    if tag == "ul":
        # get all list elements (note that they are represented as <a>-tags)
        all_deps = data.find_all("a", href=True)
        # parse the departments into a list of name, url
        departments[current_head] = [(dep.text, dep["href"]) for dep in
↪all_deps]
```

```
current head: Faculty of Architecture and Design (AD)
current head: Faculty of Humanities (HF)
current head: Faculty of Information Technology and Electrical Engineering (IE)
current head: Faculty of Engineering (IV)
current head: Faculty of Medicine and Health Sciences (MH)
current head: Faculty of Natural Sciences (NV)
current head: Faculty of Social and Educational Sciences (SU)
current head: Faculty of Economics and Management (OK)
current head: NTNU University Museum (VM)
```

```
[ ]: def find_departments(query):
    for faculty in departments.keys():
        if query in faculty:
            return departments[faculty]
    print("No faculty found")

driver = webdriver.Chrome(ChromeDriverManager().install())
department_data = dict()

for department, url in find_departments("IE"):
    driver.get(url)
    content = driver.page_source
    soup = BS(driver.page_source, features="html.parser")

    department_data[department] = soup

driver.quit()
```

```
===== WebDriver manager =====
Current google-chrome version is 97.0.4692
Get LATEST chromedriver version for 97.0.4692 google-chrome
Driver
[C:\Users\mathi\.wdm\drivers\chromedriver\win32\97.0.4692.71\chromedriver.exe]
found in cache
C:\Users\mathi\AppData\Local\Temp\ipykernel_4916\4124469402.py:7:
DeprecationWarning: executable_path has been deprecated, please pass in a
Service object
    driver = webdriver.Chrome(ChromeDriverManager().install())
```

```
[ ]: for dep, soup in department_data.items():
    content = soup.find(class_="innholdstekst")
    print("----")
    print(dep)
    print(content.get_text())
```

```
----
Department of Computer Science
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The Department of Computer Science (IDI) conducts research in the fields of: artificial intelligence (AI), big data, computer architecture, computer graphics, computer security, databases, human computer interaction (HCI), information systems, operating systems, software engineering, and search-to mention but a few.

IDI is a department at the Faculty of Information Technology and Electrical Engineering.

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Department of Electronic Systems

Electronic systems are something we take for granted. We use cell phones, computers, fitness sensors, navigation systems and video games like a natural thing. But without electronic systems, none of the electronics surrounding us would have worked.

Department of Electronic Systems (IES) teaches and do research into further development of this technology. Today's and tomorrow's requirements for advanced communication solutions, energy efficiency, and storage capacity lay the foundation for the Departments work in areas such as microelectronics, wireless technology, navigation, signal and image processing, voice and music technology and nanotechnology.

Department of Electronic Systems is one of eight departments at NTNU Faculty of Information Technology and Electrical Engineering. The department is located at Gløshaugen in Trondheim and at Gjøvik.

Department of Electric Power Engineering

At the Department of Electric Power Engineering (IEL), the mission is to contribute to the fundamental and applied knowledge of electric power engineering, and to develop technology and systems for the planning, operation and maintenance of efficient, sustainable energy systems.

Both research and research-based education at the Department cover the broad interdisciplinary aspects of power engineering: generation, transmission, conversion and the use of electric energy, including the accompanying techno-economic aspects. The Department is one of the seven departments at the Faculty of Information Technology and Electrical Engineering.

Department of ICT and Natural Sciences

The Department of ICT and Natural Sciences consists of disciplines within ICT and science. The Department offers three engineering programs at Bachelor's level and one Master's programme.

Department of Information Security and Communication Technology

The Department of Information Security and Communication Technology (IIK) conducts international competitive research in several areas of cyber security, information security, communication networks and networked services. The department operates study programs in information security and communication technology at PhD, master and bachelor levels.

We also host the Center for Cyber and Information Security (CCIS), the SFI Norwegian Centre for Cybersecurity in Critical Sectors (NORCICS) and the national Research School of Computer and Information Security (COINS). IIK is a department at the Faculty of Information Technology and Electrical Engineering.

Work with us? See our vacant positions [here](#).

Department of Mathematical Sciences

The Department of Mathematical Sciences has been instrumental in promoting the development of NTNU's program for training of science teachers, and works actively to strengthen the recruitment of students for sciences and technology. By teaching the basic courses in mathematics and statistics, the department is responsible for the quality of education for all engineering students at NTNU. We are part of the Faculty of Information Technology and Electrical Engineering.

Department of Engineering Cybernetics

Engineering Cybernetics is the interdisciplinary study and automatic control of dynamic systems like robots, aircraft, marine craft, automotive systems, electrical circuits, biological systems, process plants, etc. and their behavior. Cybernetics is closely related to control theory and systems theory. This includes the principles of feedback control and associated stability analysis.

The Department of Engineering Cybernetics (ITK) is one of 7 departments at Faculty of Information Technology and Electrical Engineering.

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