

Attributes in SURFconext

See for the attribute best practice: [Attribute best practice](#)

When a user logs in to a Service Provider, SURFconext sends a SAML assertion to the Service Provider, containing:

- user identifier (transient/persistent NameID)
- additional attributes (optional)

SURFconext's SAML2 implementation adheres to the [SAML2int standard 0.2.1](#).

In this section we will show you which attributes SURFconext and their Identity Providers have to offer.

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User identifiers

The user's identity is transmitted in the form of the NameID element. Every IdP must supply a NameID, but for privacy reasons SURFconext will generate a new one, which is duplicated in the attribute eduPersonTargetedID.

To identify a user the Service Provider must use the NameID or eduPersonTargetedID. The NameID is guaranteed to be stable for a fixed user, except in the case of transient identifiers. SURFconext will generate a NameID for each new user. It is unique for the user and specific to the SP, so SP's cannot correlate their received NameID's between each other. There are two types of NameIDs:

- `urn:oasis:names:tc:SAML:2.0:nameid-format:persistent`
A persistent NameID contains a unique string identifying the user for this SP and is persisting over multiple sessions.
- `urn:oasis:names:tc:SAML:2.0:nameid-format:transient`
A transient NameID contains a unique string identifying the user for this SP during the session. If the user logs in again, a new transient identifier will be generated.

Remark

The NameID and eduPersonTargetedID, which is basically a copy of the NameID, is unlikely to change and very privacy aware but can change when service providers or identity provider make critical changes. This can cause user profiles for services to be lost. The NameID, as used in the SAML assertion to a service provider when logging on, is generated using the **uid**, **schacHomeOrganisation**, the **Entity ID** of the **service provider** together with a secret that uses a SHA algorithm. Institutions or services that are in production and change one of these attributes, will cause a new NameID and eduPersonTargetedID to be generated by SURFconext when doing so. This can cause loss of access to profiles at services. We will notify identity providers and service providers when we see a change in one of these attributes to prevent user data being lost.

Useful links

If you have an account at an institution you can get information about attributes shared with SURFconext by visiting [our profile page](#). This page gives you insight in which personal data, provided by your institution via SURFconext, has been forwarded to which service and what they look like. For new IdP's or for IdP's that upgrade their environment, system administrators will at some point be asked to share the metadata of their account for analyses. When asked, visit [this page](#) and click the 'Mail to SURFconext' button. We will get back to you when we have judged the submitted metadata. This page will also show you the attributes shared and their values.

- Profile Page <https://profile.surfconext.nl/>
- Mail response from Identity Provider to SURFconext or review your attributes: <https://engine.surfconext.nl/authentication/sp/debug>

Attribute schemas

A schema is an abstract representation of an object's characteristics and relationship to other objects.

SURFconext supports two attribute schemas:

- `urn:oid` schema (SAML2.0 compliant)
- `urn` schema (SAML1.1 compliant)

Both can be used to convey the same information (except for the NameID, which is only available in the `urn:oid` schema). By default SURFconext will provide attributes in both schemas as part of the assertion. However it is not recommended to mix the use of the schemas.

Attribute overview

SURFconext supported relaying of the following attributes:

| Friendly name | Attribute name | Definition | Data type | Example |
|---------------|---|---------------|-------------------------------------|--|
| ID | (NameID) <code>urn:mace:dir:attribute-def:eduPersonTargetedID</code> <code>urn:oid:1.3.6.1.4.1.5923.1.1.1.10</code> | eduPerson (1) | UTF8 string (unbounded) | bd09168cf0c2e675b2def0ade6f50b7d4bb4aae |
| Surname | <code>urn:mace:dir:attribute-def:sn</code> <code>urn:oid:2.5.4.4</code> | X.520 | UTF8 string (unbounded) | Vermeegen |
| Given name | <code>urn:mace:dir:attribute-def:givenName</code> <code>urn:oid:2.5.4.42</code> | X.520 | UTF8 string (unbounded) | Mërgim Lukáš Prúður |
| Common name | <code>urn:mace:dir:attribute-def:cn</code> <code>urn:oid:2.5.4.3</code> | X.520 | UTF8 String (unbounded) | Prof.dr. Mërgim Lukáš Vermeegen, PhD. |
| Display name | <code>urn:mace:dir:attribute-def:displayName</code> <code>urn:oid:2.16.840.1.113730.3.1.241</code> | RFC2798 | UTF8 String (unbounded) | Prof.dr. Mërgim L. Vermeegen, PhD. |
| Email address | <code>urn:mace:dir:attribute-def:mail</code> <code>urn:oid:0.9.2342.19200300.100.1.3</code> | RFC4524 | RFC-5322 address (max 256 chars) | m.l.vermeegen@university.example.org maarten.'t.hart@uniharderwijk.nl "very.unusual.@.but.valid.nonetheless"@example.com mlv@[IPv6:2001:db8::1234:4321] |

| | | | | |
|----------------------------|---|------------------|--------------------------------------|--|
| Organization | urn:mace:terena.org: attribute-def: schacHomeOrganization urn:oid: 1.3.6.1.4.1.25178.1.2.9 | Schac | RFC-1035 domain string | example.nl something.example.org |
| Organization Type | urn:mace:terena.org: attribute-def: schacHomeOrganizationT ype urn:oid: 1.3.6.1.4.1.25178.1.2.10 | Schac | RFC-2141 URN see Schac standard | urn:mace:terena.org: schac: homeOrganizationType: int:university urn:mace:terena.org: schac: homeOrganizationType: es:opi |
| Employee/student number | urn:schac:attribute-def: schacPersonalUniqueCode urn:oid: 1.3.6.1.4.1.25178.1.2.14 | Schac | RFC-2141 URN see SURFnet registry | urn:schac: personalUniqueCode:nl: local:example.edu: employeeid:x12-3456 urn:schac: personalUniqueCode:nl: local:example.nl: studentid:s1234567 |
| Affiliation | urn:mace:dir:attribute-def: eduPersonAffiliation urn:oid: 1.3.6.1.4.1.5923.1.1.1.1 | eduPerson (1) | Enum type (UTF8 String) | employee, student, faculty, member, affiliate, pre-student (staff is deprecated; library-walk-in, alum are not allowed) |
| Scoped affiliation | urn:mace:dir:attribute-def: eduPersonScopedAffiliati on urn:oid: 1.3.6.1.4.1.5923.1.1.1.9 | eduPerson (1) | UTF8 String user@domain | student@uniharderwijk.nl employee@uniharderwijk. nl |
| Entitlement | urn:mace:dir:attribute-def: eduPersonEntitlement urn:oid: 1.3.6.1.4.1.5923.1.1.1.7 | eduPerson (1) | RFC-2141 URN Multi-valued | to be determined per service (see Standardized values for eduPersonEntitlement) |
| PrincipalName | urn:mace:dir:attribute-def: eduPersonPrincipalName urn:oid: 1.3.6.1.4.1.5923.1.1.1.6 | eduPerson (1) | UTF8 String user@scope | piet.jønsen@example.edu not.a@vålid.émail. adresse |
| isMemberOf | urn:mace:dir:attribute-def: isMemberOf urn:oid: 1.3.6.1.4.1.5923.1.5.1.1 | eduMember | RFC-2141 URN Multi-valued | urn:collab:org:surf.nl urn:collab:org:clarin.org |
| uid | urn:mace:dir:attribute-def: uid urn:oid: 0.9.2342.19200300.100.1 .1 | RFC4519 | UTF8 String (max 256 chars) | s9603145 flåp@example.edu |
| preferredLanguage | urn:mace:dir:attribute-def: preferredLanguage urn:oid: 2.16.840.1.113730.3.1.39 | RFC2798 BCP47 | List of BCP47 language tags | nl nl, en-gb;q=0.8, en;q=0.7 |
| ORCID | urn:mace:dir:attribute-def: eduPersonORCID urn:oid: 1.3.6.1.4.1.5923.1.1.1.16 | eduPerson (1) | URL registered with ORCID.org | http://orcid.org/0000- 0002-1825-0097 |

Note that not all identity providers might make all attributes available.

(1) eduPerson Object Class Specification (201602): <http://software.internet2.edu/eduperson/internet2-mace-dir-eduperson-201602.html>

Minimum requirements for IdP's connecting to SURFconext

There is a minimum amount of attributes to supply when you connect your IdP to SURFconext. Not supplying the attributes **urn:mace:dir:attribute-def:uid** and **urn:mace:terena.org:attribute-def:schacHomeOrganization** will cause a fatal error because those are needed to generate the NameID. Your IdP cannot be connected to SURFconext without these. Not supplying the attributes **urn:mace:dir:attribute-def:displayName** and **urn:mace:dir:attribute-def:mail** will cause a warning. A lot of services depend on these. The above mentioned are the bare minimum and will probably result in services not being able to connect to your institution. As a rule of thumb, supply the attributes as depicted [on this page](#) or those depicted in the configuration manuals on the page (Dutch) '[Handleidingen en Richtlijnen](#)'.

Deprecated Attributes

SURFconext considers the attributes **nIEduPersonOrgUnit**, **nIEduPersonStudyBranch** and **nIStudielinkNummer** **deprecated**. When you register a new IdP or SP at SURFconext, these attributes will not be allowed for use with SURFconext. Existing IdP's and SP can use these attributes until further notice.

Detailed attribute descriptions

ID

See [User identifiers](#).

Surname

| | |
|--------------|---|
| urn:mace | urn:mace:dir:attribute-def:sn |
| urn:oid | urn:oid:2.5.4.4 |
| Multiplicity | single-valued |
| Data type | UTF8 string (unbounded) |
| Description | The surname of a person (including any words such as "van", "de", "von" etc.) used for Personalization; this can be a combination of existing attributes. |
| Examples | Vermeegen |
| Notes | |

Given name

| | |
|--------------|--|
| urn:mace | urn:mace:dir:attribute-def:givenName |
| urn:oid | urn:oid:2.5.4.42 |
| Multiplicity | single-valued |
| Data type | UTF8 string (unbounded) |
| Description | Given name, also known as a first name, forename or Christian name / "name known by"; combinations of title, initials, and "name known by" are possible. |
| Examples | Jan Klaassen Mërgim K. Lukáš Þrúður |
| Notes | |

Common name

| | |
|--------------|--|
| urn:mace | urn:mace:dir:attribute-def:cn |
| urn:oid | urn:oid:2.5.4.3 |
| Multiplicity | multi-valued |
| Data type | UTF8 string (unbounded) |
| Description | Full name. |
| Examples | Prof.dr. Mërgim Lukáš Vermeegen , PhD. |
| Notes | For example, a typical name of a person in an English-speaking country comprises a personal title (e.g. Mr., Ms., Rd, Professor, Sir, Lord), a first name, middle name(s), last name, generation qualifier (if any, e.g. Jr.) and decorations and awards (if any, e.g. CBE). |

Display name

| | |
|--------------|---|
| urn:mace | urn:mace:dir:attribute-def:displayName |
| urn:oid | urn:oid:2.16.840.1.113730.3.1.241 |
| Multiplicity | single-valued |
| Data type | UTF8 string (unbounded) |
| Description | Name as displayed in applications |
| Examples | Prof.dr. Mërgim Lukáš Vermeegen , PhD. |
| Notes | <ul style="list-style-type: none"> This attribute can typically be changed by the end-users themselves, and is therefore not very suitable for identification. |

Email address

| | |
|--------------|--|
| urn:mace | urn:mace:dir:attribute-def:mail |
| urn:oid | urn:oid:0.9.2342.19200300.100.1.3 |
| Multiplicity | multi-valued |
| Data type | RFC-5322 address (max 256 chars) |
| Description | e-mail address; syntax in accordance with RFC 5322 |
| Examples | m.l.vermeegen@university.example.org "very.unusual.@.unusual.com"@example.com mlv@[IPv6:2001:db8::1234:4321]; the |
| Notes | <ul style="list-style-type: none"> Multiple email addresses are allowed. However, there's no clear strategy for SP's on how to interpret multiple addresses (use both? pick one? ask user to pick one?); the SP should devise a strategy that makes sense within the context of the application. As an IdP, in the interest of interoperability, it's advisable to avoid sending multiple addresses where possible. An email address is not necessarily the email address of this person at the institution. Do not use this attribute to uniquely identify a user. Use the <code>Named</code> instead. A user's email address may change over time, or an IdP may allow a user to change this value themselves. This makes that attribute unsuitable for authentication and authorization purposes. |

uid

| | |
|--------------|--|
| urn:mace | urn:mace:dir:attribute-def:uid |
| urn:oid | urn:oid:0.9.2342.19200300.100.1.1 |
| Multiplicity | single-valued (multi-valued in the specification, but within SURFconext only 1 value is allowed) |
| Data type | UTF8 String (max 256 chars); use of spaces and @-characters is discouraged. |
| Description | The unique code for a person that is used as the login name within the institution. |
| Examples | s9603145 piet flâp@example.edu (See note below) |
| Notes | <ul style="list-style-type: none">• The uid is <i>not</i> a unique identifier for SURFconext users. Uid values are at most unique for each IdP.• Ideally the uid is not only a login name/code but also an identifier that is guaranteed as being unique within the institution over the course of time. At the moment, there is no such guarantee.• Use the NameId for unique identifiers in SURFconext rather than uid.• Use the eduPersonPrincipalName attribute if a human-readable unique identifier is required• A uid may contain any unicode character. E.g., "org:surfnet.nl:joe von stühl" is a valid uid.• SURFconext translates @-characters in the uid to underscores before constructing the NameID. flâp@example.edu translates to flâp_example.edu. |

Home organization

| | |
|--------------|---|
| urn:mace | urn:mace:terena.org:attribute-def:schacHomeOrganization |
| urn:oid | urn:oid:1.3.6.1.4.1.25178.1.2.9 |
| Multiplicity | single-valued |
| Data type | RFC-1035 domain string. The domain MUST be a secondary-level domain that is under control by the institution. Preferably, the institution's main domain name should be used. |
| Description | The user's organization using the organization's domain name; syntax in accordance with RFC 1035. |
| Examples | uniharderwijk.nl example.nl |

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| Notes | <ul style="list-style-type: none"> • In the past, SURFconext used to send the home organization in the attribute urn:oid:1.3.6.1.4.1.1466.115.121.1.15, which was incorrect. Since 2013, the correct oid urn:oid:1.3.6.1.4.1.25178.1.2.9 is in use. For reasons of compatibility, the old (wrong) key is still sent. It should not be used in new implementations. • Matching values against this attribute should be case-insensitive, i. e. the values "uniharderwijk.nl" and "UniHarderwijk.nl" should be considered equal. For Interoperability reasons however we require lower-case values as specified above in SURFconext. • It is desirable to have the same value for all your users. • SURFconext will store the allowed value for your institution in our configuration so we can check that no illegal values are being sent. |
|-------|--|

Organization type

| | |
|--------------|--|
| urn:mace | urn:mace:terena.org:attribute-def:schacHomeOrganizationType |
| urn:oid | urn:oid:1.3.6.1.4.1.25178.1.2.10 |
| Multiplicity | single-value |
| Data type | RFC-2141 URN (see Schac standard) |
| Description | designation of the type of organization as defined on http://www.terena.org/registry/terena.org/schac/homeOrganizationType |
| Examples | urn:mace:terena.org:schac:homeOrganizationType:int:university urn:mace:terena.org:schac:homeOrganizationType:es:opi |
| Notes | <ul style="list-style-type: none"> • Attribute values are registered by Terena on http://www.terena.org/registry/terena.org/schac/homeOrganizationType • In practice, this attribute is not/hardly used by IdP's or SP's • Please contact support@surfconext.nl if you would like to use this attribute |

Employee-student number

| | |
|--------------|--|
| urn:mace | urn:schac:attribute-def:schacPersonalUniqueCode |
| urn:oid | urn:oid:1.3.6.1.4.1.25178.1.2.14 |
| Multiplicity | multi-value |
| Data type | RFC-2141 URN (see SURFnet registry) |
| Description | The user's student, employee, and/or member id as used in the university's internal systems |
| Examples | urn:schac:personalUniqueCode:nl:local:example.edu:employeeid:x12-3456 urn:schac:personalUniqueCode:nl:local:example.nl:studentid:s1234567 |
| Notes | <ul style="list-style-type: none"> • Attribute values are registered by SURFnet on https://wiki.surfnet.nl/xoTdAg • Please contact the SURFnet support team if you would like to use this attribute as an SP, or if you would like to provide it as an IdP. • This attribute's main use is for matching user accounts to the university's internal systems |

Affiliation

| | |
|--------------|--|
| urn:mace | urn:mace:dir:attribute-def:eduPersonAffiliation |
| urn:oid | urn:oid:1.3.6.1.4.1.5923.1.1.1.1 |
| Multiplicity | multi-valued |
| Data type | UTF8 String (only the values enumerated below are allowed) |
| Description | <p>Indicates the relationship between the user and his home organization (institution). The following values are permitted within SURFconext:</p> <ul style="list-style-type: none"> • <code>student</code> — A person enrolled at an institution, an external student or course participant. • <code>employee</code> — A person with a position at or labor agreement with an institution. • <code>staff</code> — All academic staff and teachers. (<i>deprecated</i>, do not use in new deployments) • <code>faculty</code> — A person whose primary role is teaching or research. (Commonly called WP at Dutch universities. Please note, PhD <i>students</i> are also perfectly allowed to carry this value.) • <code>member</code> — Anyone that holds at least one of the above affiliations is also a member. • <code>pre-student</code> — A person who has registered to start studying, but is not yet a full student. See this page (Dutch only) for more information about pre-students and the terms and conditions under which such users are allowed access. Pre-students will never be allowed access to service providers without prior consent from the service provider. • <code>affiliate</code> — A person who is authorized by the Institution, pursuant to the lenience model concluded by the Institution, to use the Service. <p>Use the above mentioned definitions to determine which affiliation a user gets. If the definitions are not sufficient, please use common sense.</p> |
| Examples | see above |
| Notes | <ul style="list-style-type: none"> • Any user who has the affiliation <code>student</code>, <code>employee</code>, or <code>faculty</code>, should also have the value <code>member</code>. • Identity Providers might internally use additional values for the affiliation attribute, such as <code>alum</code>. Per SURFconext policy, the IdP may not allow such users to access SURFconext. Other values mentioned in the eduPerson specification include <code>library-walk-in</code>. This value is not currently used within SURFconext. • According to the eduPerson specification, the values of this attribute are case insensitive; for Interoperability reasons however, we require lower-case values as specified above in SURFconext. • The document REFEDS eduPerson(Scoped)Affiliation usage comparison is useful to determine the usefulness of values in an international context. |

Scoped Affiliation

| | |
|--------------|---|
| urn:mace | urn:mace:dir:attribute-def:eduPersonScopedAffiliation |
| urn:oid | urn:oid:1.3.6.1.4.1.1466.115.121.1.15 |
| Multiplicity | multi-valued |
| Data type | UTF8 String of the form <code>affiliation@domain</code> (see below) |

| | |
|-------------|---|
| Description | <p>Indicates the relationship between the user and the domain of his home organization. The affiliation part must be one of the allowed values of the eduPersonAffiliation attribute (see definition right above).</p> <p>The value is the role of the user and the domain name of the organisation. eduPersonScopedAffiliation can hence be defined as: <eduPersonAffiliation> "@" <schacHomeOrganization>. Just like eduPersonScopedAffiliation, this is a multi valued attribute.</p> <p>The domain part must be the schacHomeOrganization of the user (or a subdomain thereof).</p> |
| Examples | <pre>student@uniharderwijk.nl faculty@uniharderwijk.nl</pre> |
| Notes | <ul style="list-style-type: none"> • This attribute is primarily a different way to convey the same information as is contained in eduPersonAffiliation and schacHomeOrganization. It's recommended to release this attribute next to eduPersonAffiliation and schacHomeOrganization, because some SP's ask for this attribute instead of the two separate ones. • If desired, this attribute can be used to describe the role of the user within a specific faculty, field, study or department that the user is part of. Because the attribute is multi-valued, a user can be a student at one and an employee at another department. |

Entitlements

| | |
|--------------|--|
| urn:mace | urn:mace:dir:attribute-def:eduPersonEntitlement |
| urn:oid | urn:oid:1.3.6.1.4.1.5923.1.1.1.7 |
| Multiplicity | multi-value |
| Data type | RFC-2141 URN |
| Description | entitlement; custom URI (URL or URN) that indicates an entitlement to something. |
| Examples | <pre>urn:mace:terena.org:tcs:personal-admin urn:x-surfnet:surfdomeinen.nl:role:dnsadmin</pre> |
| Notes | <ul style="list-style-type: none"> • This attribute can be used to communicate entitlements, roles, etc, from identity providers to services, which can be used, for example, for authorization. • The values of this attribute are scoped to the identity provider that is authoritative for the attribute. • Formatting rules apply: See also the SURFconext entitlement name-spacing policy. |

Principal name

| | |
|--------------|---|
| urn:mace | urn:mace:dir:attribute-def:eduPersonPrincipalName |
| urn:oid | urn:oid:1.3.6.1.4.1.5923.1.1.1.6 |
| Multiplicity | single-valued |
| Data type | UTF8 String of the form <code>user@scope</code> |
| Description | Unique identifier for a user. |

| | |
|----------|--|
| Examples | piet.jønsen@example.e not.a.@vålid.émail.adreß |
| Notes | <ul style="list-style-type: none"> • This is a scoped identifier for a person. It should be represented as user@scope, where user is a name-based identifier for a person. The scope part of the attribute must be part of an administrative domain of the identity system where the identifier was created and assigned. An IdP can have multiple scopes, e.g. piet@studenthartingcollege.nl or piet@hartingcollege.nl. These Piet's are different persons and are scoped under the administrative domain of e.g. hartingcollege.nl were the scope was defined. • It is common that schacHomeOrganization is used for the scope, if no other scopes are defined. • Although this value resembles an email address, it MUST NOT be used as an email address. In many cases mail cannot be delivered to this "address". • Even though this value uniquely identifies a user, it is not guaranteed that it is persistent over sessions (even though it usually is). • It is preferred to not use this to uniquely identify users. Use the NameId instead. • SURFconext will store the allowed domain part for your institution in our configuration so we can check that no illegal values are being sent. |

isMemberOf

| | |
|--------------|--|
| urn:mace | urn:mace:dir:attribute-def:isMemberOf |
| urn:oid | urn:oid:1.3.6.1.4.1.5923.1.5.1.1 |
| Multiplicity | multi-valued |
| Data type | RFC-2141 URN |
| Description | Lists the collaborative organizations the user is a member of. |
| Examples | urn:collab:org:surf.nl |
| Notes | <ul style="list-style-type: none"> • Attribute values are URIs (URN or URL) • The only currently supported value is urn:collab:org:surf.nl, which indicated that the user's home institution is a member of SURFnet • In the future, this can be used to determine membership of non-institutional collaborative organizations. • This attribute is generated by SURFconext and is available to SP's; it should not be set by IdP's. |

Preferred Language

| | |
|--------------|--|
| urn:mace | urn:mace:dir:attribute-def:preferredLanguage |
| urn:oid | urn:oid:2.16.840.1.113730.3.1.39 |
| Multiplicity | single-valued |
| Data type | RFC2798 BCP47 |
| Description | a two-letter abbreviation for the preferred language according to the ISO 639 language abbreviation code table; no subcodes. |
| Examples | nl en |

| | |
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| Notes | Used to indicate an individual's preferred written or spoken language. This is useful for international correspondence or human-computer interaction. Values for this attribute type MUST conform to the definition of the Accept-Language header field defined in RFC 2068 with the exception that the value " : " should be omitted. |
|-------|--|

EduPersonTargetedID

| | |
|--------------------------|--|
| urn:mace | urn:mace:dir:attribute-def:eduPersonTargetedID |
| urn:oid | urn:oid:1.3.6.1.4.1.5923.1.1.1.10 |
| Multiplicity | single-valued |
| Data type | UTF8 string (unbounded) |
| Description | The attribute eduPersonTargetedID is a copy of the Subject -> NameID which is generated by SURFconext itself. When an Identity Provider provides the eduPersonTargetedID itself, it is always overwritten by SURFconext. |
| Examples | bd09168cf0c2e675b2def0ade6f50b7d4bb4aae |
| Notes | This attribute is created because the Subject -> NameID itself is not part of the SAML v2.0 response and therefore only is available for application if the local SAML implementation explicitly support this. Within SURFconext the Subject -> NameID is explicitly copied into the eduPersonTargetedID attribute, in order for the identifier to be used like any other attribute. |

eduPersonORCID

| | |
|--------------------------|--|
| urn:mace | urn:mace:dir:attribute-def:eduPersonOrcid |
| urn:oid | urn:oid:1.3.6.1.4.1.5923.1.1.1.16 |
| Multiplicity | multi-valued (see remark below) |
| Data type | URL, registered with ORCID.org |
| Description | The ORCID is a persistent digital identifier that distinguishes the account holder from every other researcher. Through integration in research workflows such as manuscript and grant submission, the ORCID identifier supports automated linkages between the account holder and his/her professional activities ensuring that the account holder's work is recognized. Values MUST be valid ORCID identifiers in the ORCID preferred URL representation, i.e. http://orcid.org/0000-0002-1825-0097 |
| Examples | http://orcid.org/0000-0002-1825-0097 http://orcid.org/0000-0001-9351-8252 |
| Notes | For more information see https://www.surf.nl/en/news/2016/02/global-author-identifier-service-orcid-now-available-through-surfconext-and-edugain.html Although the attribute is in theory multi-valued, in practice it probably makes sense that it has no more than one value. |