google-scholar-api

September 7, 2022

1 Google scholar

Source: https://pypi.org/project/scholarly/

```
conda install -c conda-forge scholarly
```

1.0.1 Example-1

[ ]:
```
from scholarly import scholarly
import json

def print_pretty(input_dict):
    print("info=",json.dumps(input_dict, indent=4, sort_keys=True))

# Retrieve the author's data, fill-in, and print
# Get an iterator for the author results
search_query = scholarly.search_author('James Hickman NIST')

# Retrieve the first result from the iterator
first_author_result = next(search_query)

# Print first results
print_pretty(first_author_result)
```

```
info= {
    "affiliation": "NIST",
    "citedby": 178,
    "container_type": "Author",
    "email_domain": "@gmu.edu",
    "filled": [],
    "interests": [
        "Thermodynamics",
        "Material science",
        "Statistical mechanics",
        "Computational physics",
        "Solid state physics"
    ],
    "name": "James Hickman",
    "scholar_id": "5Gjl4o8AAAAJ",
```

```
    "source": "SEARCH_AUTHOR_SNIPPETS",
    "url_picture":
"https://scholar.google.com/citations?view_op=medium_photo&user=5Gjl4o8AAAAJ"
}
```

[ ]:
```
#Retrieve all the details for the author
author = scholarly.fill(first_author_result )
print_pretty(author)
```

```
info= {
    "affiliation": "NIST",
    "citedby": 178,
    "citedby5y": 176,
    "cites_per_year": {
        "2016": 2,
        "2017": 2,
        "2018": 12,
        "2019": 17,
        "2020": 42,
        "2021": 55,
        "2022": 48
    },
    "coauthors": [
        {
            "affiliation": "Professor of Physics, George Mason University",
            "container_type": "Author",
            "filled": [],
            "name": "Yuri Mishin",
            "scholar_id": "cfCUXJAAAAAJ",
            "source": "CO_AUTHORS_LIST"
        },
        {
            "affiliation": "Professor of Materials Science and Engineering,
Technion",
            "container_type": "Author",
            "filled": [],
            "name": "Eugen Rabkin",
            "scholar_id": "-uhV25MAAAAJ",
            "source": "CO_AUTHORS_LIST"
        },
        {
            "affiliation": "Sr. Electro Optics engineer, Nvidia",
            "container_type": "Author",
            "filled": [],
            "name": "Nimrod Gazit",
            "scholar_id": "0yXwtD8AAAAJ",
            "source": "CO_AUTHORS_LIST"
        }
```

```
    ],
    "container_type": "Author",
    "email_domain": "@gmu.edu",
    "filled": [
        "basics",
        "indices",
        "counts",
        "coauthors",
        "publications",
        "public_access"
    ],
    "hindex": 7,
    "hindex5y": 7,
    "homepage": "https://sites.google.com/site/jameshickman6810/",
    "i10index": 6,
    "i10index5y": 6,
    "interests": [
        "Thermodynamics",
        "Material science",
        "Statistical mechanics",
        "Computational physics",
        "Solid state physics"
    ],
    "name": "James Hickman",
    "public_access": {
        "available": 10,
        "not_available": 0
    },
    "publications": [
        {
            "author_pub_id": "5Gjl4o8AAAAJ:vRqMK49ujn8C",
            "bib": {
                "citation": "Nature communications 9 (1), 1-9, 2018",
                "pub_year": "2018",
                "title": "Nickel nanoparticles set a new record of strength"
            },
            "citedby_url":
"https://scholar.google.com/scholar?oi=bibs&hl=en&cites=12432703383607468660",
            "cites_id": [
                "12432703383607468660"
            ],
            "container_type": "Publication",
            "filled": false,
            "num_citations": 56,
            "public_access": true,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
```

```
            "author_pub_id": "5Gjl4o8AAAAJ:u-x6o8ySG0sC",
            "bib": {
                "citation": "Physical Review B 94 (18), 184311, 2016",
                "pub_year": "2016",
                "title": "Temperature fluctuations in canonical systems:
Insights from molecular dynamics simulations"
            },
            "citedby_url":
"https://scholar.google.com/scholar?oi=bibs&hl=en&cites=7441510995791054390",
            "cites_id": [
                "7441510995791054390"
            ],
            "container_type": "Publication",
            "filled": false,
            "num_citations": 30,
            "public_access": true,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:K3LRdlH-MEoC",
            "bib": {
                "citation": "Physical Review Materials 1 (1), 010601, 2017",
                "pub_year": "2017",
                "title": "Extra variable in grain boundary description"
            },
            "citedby_url":
"https://scholar.google.com/scholar?oi=bibs&hl=en&cites=1358462031958250098",
            "cites_id": [
                "1358462031958250098"
            ],
            "container_type": "Publication",
            "filled": false,
            "num_citations": 27,
            "public_access": true,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:u5HHmVD_uO8C",
            "bib": {
                "citation": "Physical Review B 93 (22), 224108, 2016",
                "pub_year": "2016",
                "title": "Disjoining potential and grain boundary premelting in
binary alloys"
            },
            "citedby_url":
"https://scholar.google.com/scholar?oi=bibs&hl=en&cites=13257870168618002501",
            "cites_id": [
                "13257870168618002501"
```

```
            ],
            "container_type": "Publication",
            "filled": false,
            "num_citations": 26,
            "public_access": true,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:4fKUyHm3Qg0C",
            "bib": {
                "citation": "Physical Review Materials 4 (11), 113807, 2020",
                "pub_year": "2020",
                "title": "Development of a general-purpose machine-learning
interatomic potential for aluminum by the physically informed neural network
method"
            },
            "citedby_url":
"https://scholar.google.com/scholar?oi=bibs&hl=en&cites=111457745050499406",
            "cites_id": [
                "111457745050499406"
            ],
            "container_type": "Publication",
            "filled": false,
            "num_citations": 14,
            "public_access": true,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:tS2w5q8j5-wC",
            "bib": {
                "citation": "Physical review materials 4 (3), 033405, 2020",
                "pub_year": "2020",
                "title": "Thermal conductivity and its relation to atomic
structure for symmetrical tilt grain boundaries in silicon"
            },
            "citedby_url":
"https://scholar.google.com/scholar?oi=bibs&hl=en&cites=16328433751415914836",
            "cites_id": [
                "16328433751415914836"
            ],
            "container_type": "Publication",
            "filled": false,
            "num_citations": 11,
            "public_access": true,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:d1gkVwhDpl0C",
```

```
            "bib": {
                "citation": "Physical Review E 94 (6), 062151, 2016",
                "pub_year": "2016",
                "title": "Energy spectrum of a Langevin oscillator"
            },
            "citedby_url":
"https://scholar.google.com/scholar?oi=bibs&hl=en&cites=10238930591792396701",
            "cites_id": [
                "10238930591792396701"
            ],
            "container_type": "Publication",
            "filled": false,
            "num_citations": 8,
            "public_access": true,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:8AbLer7MMksC",
            "bib": {
                "citation": "Nature communications 12 (1), 1-9, 2021",
                "pub_year": "2021",
                "title": "The impact of alloying on defect-free nanoparticles
exhibiting softer but tougher behavior"
            },
            "citedby_url":
"https://scholar.google.com/scholar?oi=bibs&hl=en&cites=17213964810514316924",
            "cites_id": [
                "17213964810514316924"
            ],
            "container_type": "Publication",
            "filled": false,
            "num_citations": 5,
            "public_access": true,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:geHnlv5EZngC",
            "bib": {
                "citation": "Physical Review Materials 5 (4), 043401, 2021",
                "pub_year": "2021",
                "title": "Coarsening of solid \u03b2-Sn particles in liquid Pb-
Sn alloys: Reinterpretation of experimental data in the framework of trans-
interface-diffusion-controlled coarsening"
            },
            "citedby_url":
"https://scholar.google.com/scholar?oi=bibs&hl=en&cites=8242228886901680746",
            "cites_id": [
                "8242228886901680746"
```

```
            ],
            "container_type": "Publication",
            "filled": false,
            "num_citations": 1,
            "public_access": true,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:5Ul4iDaHHb8C",
            "bib": {
                "citation": "",
                "pub_year": "2021",
                "title": "Coarsening of Solid Particles in Liquid Pb-Sn Alloys:
Reinterpretation of Data in Light of the TIDC Theory of Coarsening"
            },
            "container_type": "Publication",
            "filled": false,
            "num_citations": 0,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:sSrBHYA8nusC",
            "bib": {
                "citation": "",
                "pub_year": "2021",
                "title": "Softer but tougher: The impact of alloying on defect-
free nanoparticles"
            },
            "container_type": "Publication",
            "filled": false,
            "num_citations": 0,
            "public_access": true,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:fQNAKQ3IYiAC",
            "bib": {
                "citation": "USACM Workshop: Recent Advances in the Modeling and
Simulation of the \u2026, 2019",
                "pub_year": "2019",
                "title": "Physically-Informed Artificial Neural Networks for
Atomistic Modeling of Materials"
            },
            "container_type": "Publication",
            "filled": false,
            "num_citations": 0,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
```

```
        {
            "author_pub_id": "5Gjl4o8AAAAJ:08ZZubdj9fEC",
            "bib": {
                "citation": "George Mason University, 2017",
                "pub_year": "2017",
                "title": "Investigations of Interface Phenomena via Atomistic
Simulation"
            },
            "container_type": "Publication",
            "filled": false,
            "num_citations": 0,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:l7t_Zn2s7bgC",
            "bib": {
                "citation": "XV INTERNATIONAL CONFERENCE ON INTEGRANULAR AND
INTERPHASE BOUNDARIES IN \u2026, 2016",
                "pub_year": "2016",
                "title": "Atomistic modeling of pre-melted grain boundaries"
            },
            "container_type": "Publication",
            "filled": false,
            "num_citations": 0,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:LPZeul_q3PIC",
            "bib": {
                "citation": "",
                "title": "Fairfax, Virginia 22030-4444 USA Vidvuds
Ozoli\u0146\u0161 Department of Applied Physics Energy Sciences Institute"
            },
            "container_type": "Publication",
            "filled": false,
            "num_citations": 0,
            "source": "AUTHOR_PUBLICATION_ENTRY"
        },
        {
            "author_pub_id": "5Gjl4o8AAAAJ:tOudhMTPpwUC",
            "bib": {
                "citation": "COLLECTION OF EXTENDED ABSTRACTS, 211, 0",
                "title": "Atomistic modeling of grain boundary melting and
premelting in alloys"
            },
            "container_type": "Publication",
            "filled": false,
            "num_citations": 0,
```

```
            "source": "AUTHOR_PUBLICATION_ENTRY"
        }
    ],
    "scholar_id": "5Gjl4o8AAAAJ",
    "source": "SEARCH_AUTHOR_SNIPPETS",
    "url_picture":
"https://scholar.google.com/citations?view_op=medium_photo&user=5Gjl4o8AAAAJ"
}
```

[ ]:
```
# Take a closer look at the first publication
print_pretty(author['publications'][0])
```

```
info= {
    "author_pub_id": "5Gjl4o8AAAAJ:vRqMK49ujn8C",
    "bib": {
        "abstract": "Material objects with micrometer or nanometer dimensions
can exhibit much higher strength than macroscopic objects, but this strength
rarely approaches the maximum theoretical strength of the material. Here, we
demonstrate that faceted single-crystalline nickel (Ni) nanoparticles exhibit an
ultrahigh compressive strength (up to 34\u2009GPa) unprecedented for metallic
materials. This strength matches the available estimates of Ni theoretical
strength. Three factors are responsible for this record-high strength: the large
Ni shear modulus, the smooth edges and corners of the nanoparticles, and the
thin oxide layer on the particle surface. This finding is supported by molecular
dynamics simulations that closely mimic the experimental conditions, which show
that the mechanical failure of the strongest particles is triggered by
homogeneous nucleation of dislocation loops inside the particle. The nucleation
of a stable loop is \u2026",
        "author": "A Sharma and J Hickman and N Gazit and E Rabkin and Y
Mishin",
        "citation": "Nature communications 9 (1), 1-9, 2018",
        "journal": "Nature communications",
        "number": "1",
        "pages": "1-9",
        "pub_year": 2018,
        "publisher": "Nature Publishing Group",
        "title": "Nickel nanoparticles set a new record of strength",
        "volume": "9"
    },
    "citedby_url": "/scholar?hl=en&cites=12432703383607468660",
    "cites_id": [
        "12432703383607468660"
    ],
    "cites_per_year": {
        "2019": 7,
        "2020": 13,
        "2021": 20,
        "2022": 16
```

```
    },
    "container_type": "Publication",
    "filled": true,
    "mandates": [
        {
            "acknowledgement": " \u2026National Science Foundation, Award No.
1708314 \u2026",
            "agency": "US National Science Foundation",
            "effective_date": "2016/1",
            "embargo": "12 months",
            "url_policy": "https://www.nsf.gov/pubs/2015/nsf15052/nsf15052.pdf",
            "url_policy_cached": "/mandates/nsf-2021-02-13.pdf"
        },
        {
            "acknowledgement": " \u2026ISF-NSFC program, grant no. 2233/15
\u2026",
            "agency": "National Natural Science Foundation of China",
            "effective_date": "2014/5",
            "embargo": "12 months",
            "url_policy": "http://ir.nsfc.gov.cn/statement",
            "url_policy_cached": "/mandates/nsfc_cn-2021-02-13-cn.pdf"
        }
    ],
    "num_citations": 56,
    "pub_url": "https://www.nature.com/articles/s41467-018-06575-6",
    "public_access": true,
    "source": "AUTHOR_PUBLICATION_ENTRY",
    "url_related_articles":
"/scholar?oi=bibs&hl=en&q=related:dGK4KdvViawJ:scholar.google.com/"
}
```

[ ]:
```
# Take a closer look at the second publication
print_pretty(author['publications'][1])
```

```
info= {
    "author_pub_id": "5Gjl4o8AAAAJ:u-x6o8ySG0sC",
    "bib": {
        "citation": "Physical Review B 94 (18), 184311, 2016",
        "pub_year": "2016",
        "title": "Temperature fluctuations in canonical systems: Insights from
molecular dynamics simulations"
    },
    "citedby_url":
"https://scholar.google.com/scholar?oi=bibs&hl=en&cites=7441510995791054390",
    "cites_id": [
        "7441510995791054390"
    ],
    "container_type": "Publication",
```

```
    "filled": false,
    "num_citations": 30,
    "public_access": true,
    "source": "AUTHOR_PUBLICATION_ENTRY"
}
```

[ ]:
```
first_publication_filled = scholarly.fill(author['publications'][1])
print_pretty(first_publication_filled)
```

```
info= {
    "author_pub_id": "5Gjl4o8AAAAJ:u-x6o8ySG0sC",
    "bib": {
        "abstract": "Molecular dynamics simulations of a quasiharmonic solid are
conducted to elucidate the meaning of temperature fluctuations in canonical
systems and validate a well-known but frequently contested equation predicting
the mean square of such fluctuations. The simulations implement two virtual and
one physical (natural) thermostat and examine the kinetic, potential, and total
energy correlation functions in the time and frequency domains. The results
clearly demonstrate the existence of quasiequilibrium states in which the system
can be characterized by a well-defined temperature that follows the mentioned
fluctuation equation. The emergence of such states is due to the wide separation
of time scales between thermal relaxation by phonon scattering and slow energy
exchanges with the thermostat. The quasiequilibrium states exist between these
two time scales when the system behaves as virtually isolated and \u2026",
        "author": "J Hickman and Y Mishin",
        "citation": "Physical Review B 94 (18), 184311, 2016",
        "journal": "Physical Review B",
        "number": "18",
        "pages": "184311",
        "pub_year": 2016,
        "publisher": "American Physical Society",
        "title": "Temperature fluctuations in canonical systems: Insights from
molecular dynamics simulations",
        "volume": "94"
    },
    "citedby_url": "/scholar?hl=en&cites=7441510995791054390",
    "cites_id": [
        "7441510995791054390"
    ],
    "cites_per_year": {
        "2016": 1,
        "2017": 2,
        "2018": 3,
        "2019": 3,
        "2020": 11,
        "2021": 5,
        "2022": 5
    },
```

```
    "container_type": "Publication",
    "filled": true,
    "mandates": [
        {
            "acknowledgement": " \u2026US Department of Energy, Office of Basic
Energy Sciences, Division of Materials Sciences and Engineering, the Physical
Behavior of Materials Program, through Grant No. DE-FG02-01ER45871 \u2026",
            "agency": "US Department of Energy",
            "effective_date": "2014/10",
            "embargo": "12 months",
            "url_policy": "https://www.osti.gov/pages/faqs#what-is-doe-public-
access",
            "url_policy_cached": "/mandates/doe-2021-06-29.pdf"
        }
    ],
    "num_citations": 30,
    "pub_url":
"https://journals.aps.org/prb/abstract/10.1103/PhysRevB.94.184311",
    "public_access": true,
    "source": "AUTHOR_PUBLICATION_ENTRY",
    "url_related_articles":
"/scholar?oi=bibs&hl=en&q=related:NgZK6NKORWcJ:scholar.google.com/"
}
```


[ ]:
```
# Print the titles of the author's publications
publication_titles = [print(pub['bib']['title']) for pub in␣
 ↪author['publications']]
# print(publication_titles)
```

```
Nickel nanoparticles set a new record of strength
Temperature fluctuations in canonical systems: Insights from molecular dynamics
simulations
Extra variable in grain boundary description
Disjoining potential and grain boundary premelting in binary alloys
Development of a general-purpose machine-learning interatomic potential for
aluminum by the physically informed neural network method
Thermal conductivity and its relation to atomic structure for symmetrical tilt
grain boundaries in silicon
Energy spectrum of a Langevin oscillator
The impact of alloying on defect-free nanoparticles exhibiting softer but
tougher behavior
Coarsening of solid  -Sn particles in liquid Pb-Sn alloys: Reinterpretation of
experimental data in the framework of trans-interface-diffusion-controlled
coarsening
Coarsening of Solid Particles in Liquid Pb-Sn Alloys: Reinterpretation of Data
in Light of the TIDC Theory of Coarsening
Softer but tougher: The impact of alloying on defect-free nanoparticles
Physically-Informed Artificial Neural Networks for Atomistic Modeling of
```

```
Materials
Investigations of Interface Phenomena via Atomistic Simulation
Atomistic modeling of pre-melted grain boundaries
Fairfax, Virginia 22030-4444 USA Vidvuds Ozoliņš Department of Applied Physics
Energy Sciences Institute
Atomistic modeling of grain boundary melting and premelting in alloys
```

[ ]:
```
# Which papers cited that publication?
citations = [print(citation['bib']['title']) for citation in scholarly.
 ↪citedby(author['publications'][1])]
```

```
Temperature in and out of equilibrium: A review of concepts, tools and attempts
Novel molecular-dynamics-based protocols for phase space sampling in complex
systems
Fundamental thermal noise limits for optical microcavities
Assessment of mechanical, thermal properties and crystal shapes of monoclinic
tricalcium silicate from atomistic simulations
Demystifying the success of empirical distributions in space plasmas
Thermal conductivity and its relation to atomic structure for symmetrical tilt
grain boundaries in silicon
Local temperatures out of equilibrium
Deciphering the 'Elixir of Life': Dynamic perspectives into the allosteric
modulation of mitochondrial ATP synthase by J147, a novel drug in the treatment
of Alzheimer's …
Energy spectrum of a Langevin oscillator
Efficient determination of solid-state phase equilibrium with the multicell
Monte Carlo method
Temperature and its control in molecular dynamics simulations
Energy localization and excess fluctuations from long-range interactions in
equilibrium molecular dynamics
Vibrational Behavior of Water Adsorbed on Forsterite (Mg2SiO4) Surfaces
Fluctuation theorems in q-canonical ensembles
O(N) Fluctuations and Lattice Distortions in 1-Dimensional Systems
Fluctuating temperature outside superstatistics: Thermodynamics of small systems
Temperature fluctuations for a platoon of vehicles in contact with a heat bath
Alloy thermodynamics via the Multi-cell Monte Carlo (MC) 2 method
Atomistic investigation on the conversion of plastic work to heat in high-rate
shear deformation
Fluid-like behaviour and definitions of temperature and heat in 1-dimensional
systems
Disruption of equilibrium due to lack of change
Study on Nanoporous Graphene-Based Hybrid Architecture for Surface Bonding
On the elaboration of the next generation of thermodynamic models of solid
solutions
Computational Study on Surface Bonding Based on Nanocone Arrays
Resonant Spatial Light Modulation: Optical Programming and Sensing at the
Fundamental Limit
Theoretical Study on the Structure and Dynamics of Hydrogen Hydrates
```

```
Counterfactual thermodynamics: Extracting work from a lack of macroscopic change
Molecular dynamics modelling of gold atomic force microscopy tips on multilayer
graphene
A NOTE ON THE CONSEQUENCES OF A HOT MITOCHONDRION: SOME RECENT DEVELOPMENTS AND
OPEN QUESTIONS1
              :
```

[ ]: