



## **SERGIO ANDRES AGUILA PUENTES**

### **Datos Generales**

**Nombre:** SERGIO ANDRES AGUILA PUENTES

**Máximo nivel de estudios:** DOCTORADO

**Antigüedad académica en la UNAM:** 12 años

---

### **Nombramientos**

**Vigente:** INVESTIGADOR TITULAR B TC Definitivo  
Centro de Nanociencias y Nanotecnología en la UNAM  
Desde 01-10-2020

---

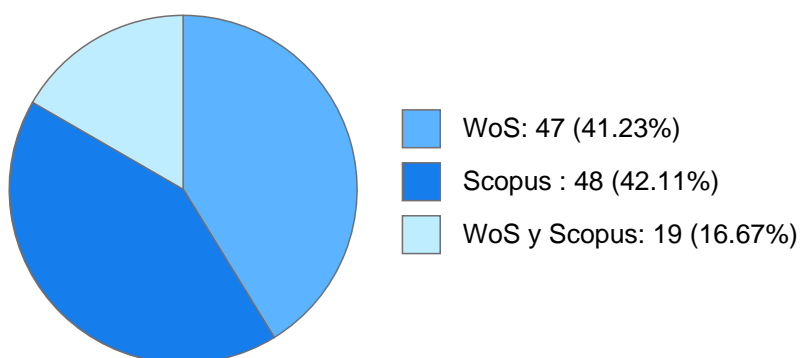
### **Estímulos, programas, premios y reconocimientos**

SNI II 2020 - VIGENTE  
SNI I 2014 - 2019  
PRIDE C 2023 - 2024  
PRIDE B 2018 - 2023  
EQUIVALENCIA PRIDE B 2014 - 2018

## SERGIO ANDRES AGUILA PUENTES

### DOCUMENTOS EN REVISTAS

#### Histórico de Documentos



#	Título	Autores	Revista	Año
1	Europium-Induced Ferromagnetism on Bismuth Germanium Oxide Nanoparticles toward Spintronics Applications	JONATHAN GUERRERO SANCHEZ ARMANDO REYES SERRATO MARIO HUMBERTO FARIAS SANCHEZ et al.	Acs Omega	2025
2	Laccase catalytic activity shielded by SiO <sub>2</sub> nanostructured materials: an in vitro and in silico approach	SERGIO ANDRES AGUILA PUENTES Wong-Romero J.I. Vidal-Limon A.	JOURNAL OF BIOMOLECULAR STRUCTURE & DYNAMICS	2024
3	Evaluation of the release kinetics of hydrophilic and lipophilic compounds from lipid-polymer hybrid nanoparticles	SERGIO ANDRES AGUILA PUENTES Juan P. Carmona-Almazan Ana B. Castro-Cesena	Nanoscale	2024
4	Magnetic, structural, and morphological properties behavior of Ni <sub>1-x</sub> CoxFe <sub>2</sub> O <sub>4</sub> magnetic nanoparticles: Theoretical and experimental study	DAVID ALEJANDRO DOMINGUEZ VARGAS SERGIO ANDRES AGUILA PUENTES JONATHAN GUERRERO SANCHEZ et al.	MATERIALS CHARACTERIZATION	2024
5	Synthesis and optimization of photothermal properties of NIR emitting LiGa <sub>5</sub> O <sub>8</sub> : Cr <sup>3+</sup> and gold nanorods as hybrid materials for theranostic applications	PRAKHAR SENGAR GUSTAVO ALONSO HIRATA FLORES MARCELA LIZANO SOBERON et al.	TRANSLATIONAL ONCOLOGY	2023
6	Experimental and theoretical assessment of the Eu <sup>3+</sup> doped Bi <sub>4</sub> Ge <sub>3</sub> O <sub>12</sub>	RODRIGO PONCE PEREZ ABDUL MAURICIO REYES USUGA GERARDO SOTO HERRERA et al.	JOURNAL OF ALLOYS AND COMPOUNDS	2023

## SERGIO ANDRES AGUILA PUENTES

7	Molecular dynamics and free energy calculations of clozapine bound to D2 and H1 receptors reveal a cardiometabolic mitigated derivative	SERGIO ANDRES AGUILA PUENTES Castañeda-Leautaud A.C. Vidal-Limon A.	JOURNAL OF BIOMOLECULAR STRUCTURE & DYNAMICS	2023
8	Influence of the fluoroethylene carbonate on the electrochemical behavior of Bi <sub>3</sub> Ge <sub>4</sub> O <sub>12</sub> as Lithium-ion anode	SERGIO ANDRES AGUILA PUENTES Rodriguez J.R. Belman-Rodriguez C. et al.	JOURNAL OF COLLOID AND INTERFACE SCIENCE	2022
9	Reversible Lithium-Ion Storage in h-Bi <sub>2</sub> Ge <sub>3</sub> O <sub>9</sub> -Based Anode: Experimental and Theoretical Studies	ANDREY SIMAKOV SERGIO ANDRES AGUILA PUENTES RODRIGO PONCE PEREZ et al.	JOURNAL OF ELECTROANALYTICAL CHEMISTRY	2022
10	Structure-Based Virtual Screening of Sterols and Triterpenoids Isolated from Ganoderma (Agaricomycetes) Medicinal Mushrooms Shows Differences in Their Affinity for Human Glucocorticoid and Mineralocorticoid Receptors	SERGIO ANDRES AGUILA PUENTES ABRAHAM MARCELINO VIDAL LIMÓN Maria de la Soledad Lagunes-Castro et al.	INTERNATIONAL JOURNAL OF MEDICINAL MUSHROOMS	2021
11	Improving Structure-Based Virtual Screening with Ensemble Docking and Machine Learning	SERGIO ANDRES AGUILA PUENTES Joel Ricci-Lopez Michael K. Gilson et al.	JOURNAL OF CHEMICAL INFORMATION AND MODELING	2021
12	In Silico Design of Novel Mutant Anti-MUC1 Aptamers for Targeted Cancer Therapy	ABRAHAM MARCELINO VIDAL LIMÓN SERGIO ANDRES AGUILA PUENTES Santini B.L. et al.	JOURNAL OF CHEMICAL INFORMATION AND MODELING	2020
13	Photocatalytic and Antimicrobial Properties of Ga Doped and Ag Doped ZnO Nanorods for Water Treatment	ABRAHAM MARCELINO VIDAL LIMÓN JOSE MANUEL ROMO HERRERA SERGIO ANDRES AGUILA PUENTES et al.	CATALYSTS	2019
14	Molecular modeling simulation studies reveal new potential inhibitors against HPV E6 protein	SERGIO ANDRES AGUILA PUENTES Ricci-López J. Vidal-Limon A. et al.	PLOS ONE	2019
15	Colorimetric and rapid determination of Cr(III) ions in water samples using AuNPs modified with 11-mercaptopoundecyl phosphonic acid: spectroscopic characterization and reaction mechanism	SERGIO ANDRES AGUILA PUENTES García Grajeda B.A. Peinado Guevara H. et al.	Inorganic And Nano-Metal Chemistry	2018
16	Scoring of Side-Chain Packings: An Analysis of Weight Factors and Molecular Dynamics Structures	SERGIO ANDRES AGUILA PUENTES Colbes J. Brizuela C.A.	JOURNAL OF CHEMICAL INFORMATION AND MODELING	2018

## SERGIO ANDRES AGUILA PUENTES

17	Enhanced Degradation of Pesticide Dichlorophen by Laccase Immobilized on Nanoporous Materials: A Cytotoxic and Molecular Simulation Investigation	OSCAR EDEL CONTRERAS LOPEZ SERGIO ANDRES AGUILA PUENTES ABRAHAM MARCELINO VIDAL LIMÓN et al.	BIOCONJUGATE CHEMISTRY	2018
18	Electrocatalysis of oxygen reduction when varying the mass ratio of metal nanoparticles to carbon support for catalysts with a 10 to 10 to 80 mol% of Pt and Pd on Ag	SERGIO ANDRES AGUILA PUENTES Pech-Pech I.E. Gervasio D. et al.	INTERNATIONAL JOURNAL OF HYDROGEN ENERGY	2018
19	Synthesis and characterization of BGO with different chelating compounds by the polymeric precursor method, and their effect on luminescence properties	OSCAR EDEL CONTRERAS LOPEZ SERGIO ANDRES AGUILA PUENTES ABRAHAM MARCELINO VIDAL LIMÓN et al.	CERAMICS INTERNATIONAL	2018
20	Bismuth germanate (Bi <sub>4</sub> Ge <sub>3</sub> O <sub>12</sub> ), a promising high-capacity lithium-ion battery anode	SERGIO ANDRES AGUILA PUENTES Rodriguez J.R. Belman-Rodriguez C. et al.	CHEMICAL COMMUNICATIO NS	2018
21	Selective and colorimetric detection of Ba <sup>2+</sup> ions in aqueous solutions using 11-mercaptoundecylphosphonic acid functionalized gold nanoparticles	SERGIO ANDRES AGUILA PUENTES Garcia Grajeda, Blanca A. Soto Acosta, Samuel G. et al.	RSC ADVANCES	2017
22	A workflow for in silico design of hIL-10 and ebvIL-10 inhibitors using well-known miniprotein scaffolds	SERGIO ANDRES AGUILA PUENTES Duenas, Salvador Pimienta, Genaro	JOURNAL OF MOLECULAR MODELING	2017
23	Electron transfer pathways analysis of oxygen tolerant [NiFe]-hydrogenases for hydrogen production: A quantum mechanics/molecular mechanics - statistical coupled analysis	OSCAR EDEL CONTRERAS LOPEZ SERGIO ANDRES AGUILA PUENTES ABRAHAM MARCELINO VIDAL LIMÓN et al.	INTERNATIONAL JOURNAL OF HYDROGEN ENERGY	2017
24	Substrate ionization energy influences the epoxidation of m-substituted styrenes catalyzed by chloroperoxidase from <i>Caldariomyces fumago</i>	SERGIO ANDRES AGUILA PUENTES RAFAEL VAZQUEZ DUHALT Munoz-Guerrero, Fabio A. et al.	CATALYSIS COMMUNICATIO NS	2016
25	Biocatalytic Performance of Chloroperoxidase from <i>Caldariomyces fumago</i> Immobilized onto TiO <sub>2</sub> Based Supports	SERGIO ANDRES AGUILA PUENTES RAFAEL VAZQUEZ DUHALT Munoz-Guerrero, Fabio A. et al.	TOPICS IN CATALYSIS	2016
26	Enhancement of operational stability of chloroperoxidase from <i>Caldariomyces fumago</i> by immobilization onto mesoporous supports and the use of co-solvents	SERGIO ANDRES AGUILA PUENTES RAFAEL VAZQUEZ DUHALT MunozGuerrero, Fabio A. et al.	JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC	2015

## SERGIO ANDRES AGUILA PUENTES

27	A biosensor based on Coriolopsis gallica laccase immobilized on nitrogen-doped multiwalled carbon nanotubes and graphene oxide for polyphenol detection	SERGIO ANDRES AGUILA PUENTES David Shimomoto Francisco Ipinza et al.	SCIENCE AND TECHNOLOGY OF ADVANCED MATERIALS	2015
28	QM/MM Molecular Modeling and Marcus Theory in the Molecular Design of Electrodes for Enzymatic Fuel Cells	RAFAEL VAZQUEZ DUHALT SERGIO ANDRES AGUILA PUENTES Andres A. Arrocha et al.	CHEMELECTROC HEM	2014
29	Enzyme orientation for direct electron transfer in an enzymatic fuel cell with alcohol oxidase and laccase electrodes	Andres A. Arrocha SERGIO ANDRES AGUILA PUENTES RAFAEL VAZQUEZ DUHALT et al.	BIOSENSORS & BIOELECTRONICS	2014
30	Spectroscopic characterization of 2,6-dimethoxyphenol radical intermediates in the Coriolopsis gallica laccase-mediator system	RAFAEL VAZQUEZ DUHALT SERGIO ANDRES AGUILA PUENTES Martorana, Andrea et al.	JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC	2014
31	Unusual activation during peroxidase reaction of a cytochrome c variant	SERGIO ANDRES AGUILA PUENTES MARTHA ELENA SOSA TORRES RAFAEL VAZQUEZ DUHALT et al.	JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC	2013
32	Prediction model based on decision tree analysis for laccase mediators	SERGIO ANDRES AGUILA PUENTES RAFAEL VAZQUEZ DUHALT Medina, Fabiola et al.	ENZYME AND MICROBIAL TECHNOLOGY	2013
33	Peroxidase activity stabilization of cytochrome P450BM3 by rational analysis of intramolecular electron transfer	SERGIO ANDRES AGUILA PUENTES MARCELA AYALA ACEVES CESAR VICENTE FERREIRA BATISTA et al.	JOURNAL OF INORGANIC BIOCHEMISTRY	2013
34	Strategies for specifically directing metal functionalization of protein nanotubes: Constructing protein coated silver nanowires	Liliana Carreno Fuentes JORGE ANTONIO ASCENCIO GUTIERREZ SERGIO ANDRES AGUILA PUENTES et al.	Nanotechnology	2013
35	Substitution of the Catalytic Metal and Protein PEGylation Enhances Activity and Stability of Bacterial Phosphotriesterase	LUCIA PEREZGASGA CISCOMANI Lorena Sanchez Sanchez SERGIO ANDRES AGUILA PUENTES et al.	APPLIED BIOCHEMISTRY AND BIOTECHNOLOGY	2012
36	Enzymatic fructosylation of aromatic and aliphatic alcohols by Bacillus subtilis levansucrase: Reactivity of acceptors	Arlette Mena Arizmendi SERGIO ANDRES AGUILA PUENTES Alfonso Miranda Molina et al.	JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC	2011
37	Enhancing oxidation activity and stability of iso-1-cytochrome c and chloroperoxidase by immobilization in nanostructured supports	SERGIO ANDRES AGUILA PUENTES RAFAEL VAZQUEZ DUHALT Covarrubias, Cristian et al.	JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC	2011

## SERGIO ANDRES AGUILA PUENTES

38	Syringaldehyde a true laccase mediator Comments on the Letter to the Editor from Jeon, J-R., Kim, E-J. and Chang, Y-S.	C. Torres Duarte SERGIO ANDRES AGUILA PUENTES RAFAEL VAZQUEZ DUHALT	Chemosphere	2011
39	Bioreduction of some common carbonylic compounds mediated by yeasts	SERGIO ANDRES AGUILA PUENTES Silva J. Alarcón J. et al.	ZEITSCHRIFT FUR NATURFORSCHU NG SECTION C-A JOURNAL OF BIOSCIENCES	2010
40	Biotransformation of indole derivatives by mycelial cultures	SERGIO ANDRES AGUILA PUENTES Alarcón J. Cid E. et al.	ZEITSCHRIFT FUR NATURFORSCHU NG SECTION C-A JOURNAL OF BIOSCIENCES	2008
41	Biotransformation of 5 $\alpha$ -hydroxy-14-eudesm-11-en-3-one by Rhizopus nigricans, Cunninghamella elegans and Mucor plumbeus	SERGIO ANDRES AGUILA PUENTES Alarcón J. Cornejo F. et al.	JOURNAL OF MOLECULAR CATALYSIS B-ENZYMATIC	2007
42	Production of exopolysaccharides by a submerged culture of an entomopathogenic fungus, Paecilomyces sp.	SERGIO ANDRES AGUILA PUENTES Lillo L. Alarcón J. et al.	ZEITSCHRIFT FUR NATURFORSCHU NG SECTION C-A JOURNAL OF BIOSCIENCES	2007
43	Structural studies of native Paecilomyces sp. exopolysaccharide	SERGIO ANDRES AGUILA PUENTES Lillo L. Alarcón J. et al.	ZEITSCHRIFT FUR NATURFORSCHU NG SECTION C-A JOURNAL OF BIOSCIENCES	2007
44	Regio and stereoselective hydroxylation of 5 $\alpha$ -hydroxy-14-eudesm-11-en-3-one eudesmane by biotransformation of Rhizopus nigricans	SERGIO ANDRES AGUILA PUENTES Alarcón J. Conejeros C. et al.	JOURNAL OF THE CHILEAN CHEMICAL SOCIETY	2006
45	Biotransformation of tryptophan by liquid medium culture of Psilocybe coprophila (Basidiomycetes)	SERGIO ANDRES AGUILA PUENTES Alarcón J. Foncea L. et al.	ZEITSCHRIFT FUR NATURFORSCHU NG SECTION C-A JOURNAL OF BIOSCIENCES	2006
46	Lovastatin production by Pleurotus ostreatus: Effects of the C:N ratio	SERGIO ANDRES AGUILA PUENTES Alarcón J.	ZEITSCHRIFT FUR NATURFORSCHU NG SECTION C-A JOURNAL OF BIOSCIENCES	2006



**Reporte individual**

**SERGIO ANDRES AGUILA PUENTES**

47	Regio and stereoselective hydroxylation of agarofuran by biotransformation of rhizopus nigricans	SERGIO ANDRES AGUILA PUENTES Alarcón J. Alderete J.B. et al.	JOURNAL OF THE CHILEAN CHEMICAL SOCIETY	2005
48	Biotransformation of 3 $\alpha$ ,4 $\alpha$ -dihydroxy-dihydro- $\beta$ -agarofuran by Rhizopus nigricans	SERGIO ANDRES AGUILA PUENTES Alarcón J.	ZEITSCHRIFT FUR NATURFORSCHU NG SECTION C-A JOURNAL OF BIOSCIENCES	2004
49	Production and purification of statins from Pleurotus ostreatus (Basidiomycetes) strains	SERGIO ANDRES AGUILA PUENTES Alarcón J. Arancibia-Avila P. et al.	ZEITSCHRIFT FUR NATURFORSCHU NG SECTION C-A JOURNAL OF BIOSCIENCES	2003



**SERGIO ANDRES AGUILA PUENTES**

**LIBROS Y CAPITULOS CON ISBN**

**Obras con registro ISBN**



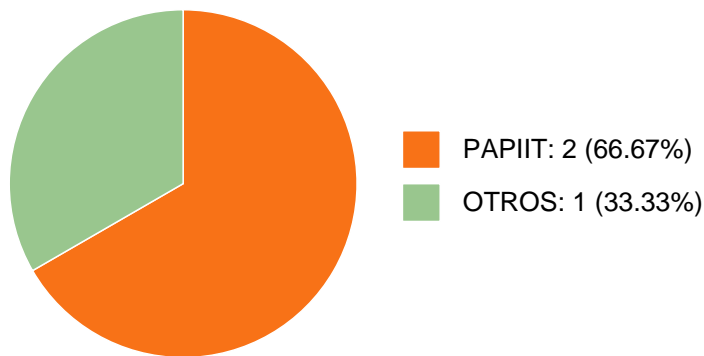
#	Título	Autores	Alcance	Año	ISBN
1	Preguntas y respuestas sobre el mundo NANO	SERGIO ANDRES AGUILA PUENTES JESUS ALBERTO MAYTORENA CORDOVA LEONARDO MORALES DE LA GARZA et al.	Libro Completo	2016	9786070281440
2	¿Porque inmovilizar enzimas en soportes nanoestructurados	SERGIO ANDRES AGUILA PUENTES RAFAEL VAZQUEZ DUHALT	Capítulo de un Libro	2016	9786070281440



**SERGIO ANDRES AGUILA PUENTES**

**PARTICIPACIÓN EN PROYECTOS**

**Histórico de participación en proyectos**

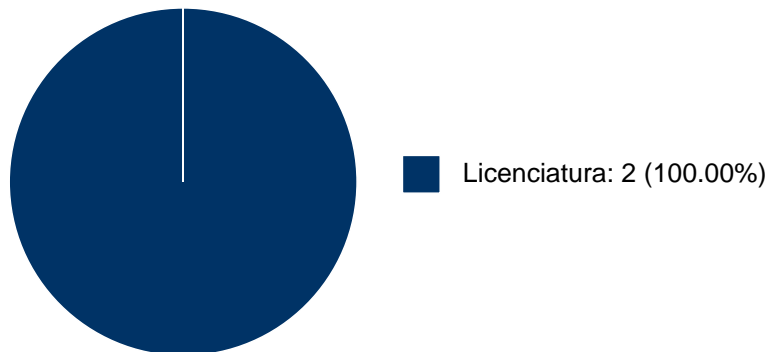


#	Nombre	Participantes	Fuente	Fecha inicio	Fecha fin
1	Desarrollo nano tecnológico de una nueva formulación de plaguicida orgánico basado en algas marinas para el control patógeno de interés del sector agrícola.	SERGIO ANDRES AGUILA PUENTES	Sector Privado	27-02-2017	26-02-2018
2	Diseño y obtención de un nanobiosensor para el diagnóstico del virus del papiloma humano.	SERGIO ANDRES AGUILA PUENTES	Recursos PAPIIT	01-01-2020	31-12-2022
3	Diseño y obtención de un nanobiosensor para el diagnóstico del virus del papiloma humano.	SERGIO ANDRES AGUILA PUENTES	Recursos PAPIIT	01-01-2020	31-12-2022

**SERGIO ANDRES AGUILA PUENTES**

**PARTICIPACIÓN EN TESIS**

**Histórico de Colaboraciones en Tesis**

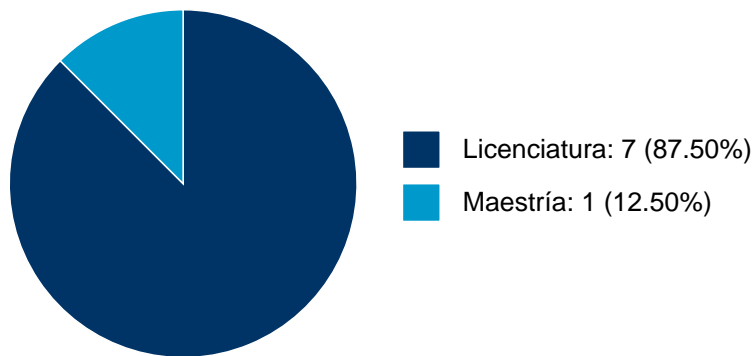


#	Título del documento	Tipo de Tesis	Sinodales	Autores	Entidad	Año
1	Catalizadores de IR soportado en nanoestructuras de TIO2 para la síntesis de 2-fenil-bencimidazol por aminación reductiva de 2-nitroanilina y benzaldehído	Tesis de Licenciatura	SERGIO ANDRES AGUILA PUENTES,	Márquez Montesinos, Abdiel,	Centro de Nanociencias y Nanotecnología en la UNAM,	2023
2	Inmovilización de lacasa de coriopsis gallica en nanoestructuras magnéticas	Tesis de Licenciatura	SERGIO ANDRES AGUILA PUENTES,	López Olvera, Enrique Argenis,	Centro de Nanociencias y Nanotecnología en la UNAM,	2016

**SERGIO ANDRES AGUILA PUENTES**

**DOCENCIA IMPARTIDA**

**Histórico de docencia**



#	Nivel titulación	Asignatura	Entidad	Alumnos	Semestre
1	Licenciatura	TERMODINAMICA Y TERMOESTADISTICA	Centro de Nanociencias y Nanotecnología en la UNAM	6	2024-1
2	Licenciatura	TERMODINAMICA Y TERMOESTADISTICA	Centro de Nanociencias y Nanotecnología en la UNAM	10	2023-1
3	Licenciatura	TERMODINAMICA Y TERMOESTADISTICA	Centro de Nanociencias y Nanotecnología en la UNAM	6	2022-1
4	Licenciatura	TERMODINAMICA Y TERMOESTADISTICA	Centro de Nanociencias y Nanotecnología en la UNAM	6	2021-1
5	Maestría	ESTRUCTURA ELECTRÓNICA DE MATERIALES	Instituto de Investigaciones en Materiales	1	2020-2
6	Licenciatura	NANOMATERIALES I: SINTESIS	Centro de Nanociencias y Nanotecnología en la UNAM	5	2018-1
7	Licenciatura	NANOMATERIALES I: SINTESIS	Centro de Nanociencias y Nanotecnología en la UNAM	8	2017-1



**Sistema Integral de Información Académica**  
**Coordinación de Planeación, Evaluación y**  
**Simplificación de la Gestión Institucional**  
**Reporte individual**



**SERGIO ANDRES AGUILA PUENTES**

8	Licenciatura	BIOCATALISIS	Centro de Nanociencias y Nanotecnología en la UNAM	6	2014-2
---	--------------	--------------	--	---	--------



**Sistema Integral de Información Académica**  
**Coordinación de Planeación, Evaluación y**  
**Simplificación de la Gestión Institucional**  
**Reporte individual**



**SERGIO ANDRES AGUILA PUENTES**

**PATENTES**

**No se encuentran registros en la base de datos de patentes asociados a:**

**SERGIO ANDRES AGUILA PUENTES**

**SERGIO ANDRES AGUILA PUENTES**

**FUENTES DE INFORMACIÓN**

**Internos**

#	Información	Fuente	Sistema	Periodo
1	Grupos ordinarios y resumen de historias académicas	DGAE	SIAE	2008-2025
2	Nombramientos, datos generales, estímulos, premios y reconocimientos	DGAPA	RUPA	2008-2025
3	Producción Académica	CH	Humanindex	2008-2021
4	Producción Académica	CIC	SCIC	2000-2017
5	Proyectos	DGPO	SISEPRO	2018-2022
6	Tesis	DGB	TESIUNAM	2008-2025
7	Tutorías en Posgrado	CGEP	SIIPosgrado	2008-2021

**Externos**

#	Información	Fuente	Sistema	Periodo
8	Documentos Indexados	Elsevier	Scopus	2008-2025
9	Documentos Indexados	Thomson Reuters	WoS	2008-2025
10	Obras con registro ISBN	INDAUTOR	Agencia ISBN	2008-2025
11	Patentes	IMPI	SIGA	2008-2024