



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



**FRANCISCO XAVIER GONZALEZ ACUÑA**

## Datos Generales

**Nombre:** FRANCISCO XAVIER GONZALEZ ACUÑA

**Máximo nivel de estudios:** DOCTORADO

**Antigüedad académica en la UNAM:** 61 años

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## Nombramientos

**Vigente:** INVESTIGADOR EMERITO TC Definitivo  
Instituto de Matemáticas  
Desde 16-10-2020

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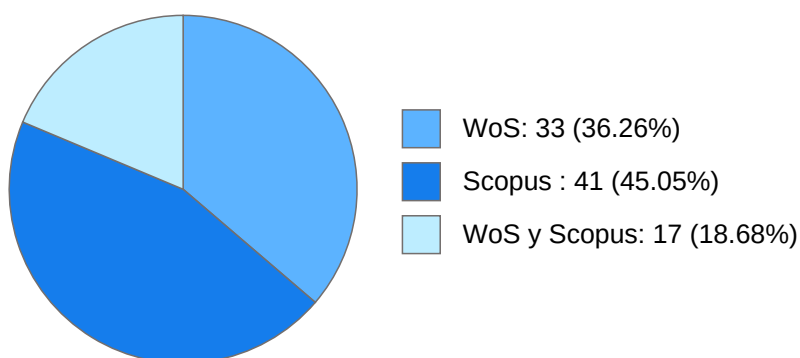
## Estímulos, programas, premios y reconocimientos

SNI EméritoVIGENTE  
SNI III - 2024  
PRIDE D - 2020

**FRANCISCO XAVIER GONZALEZ ACUÑA**

**DOCUMENTOS EN REVISTAS**

**Histórico de Documentos**



| # | Título                                                                              | Autores                                                                                     | Revista                                             | Año  |
|---|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------|------|
| 1 | The Stratworld                                                                      | JOSE CARLOS GOMEZ LARRAÑAGA<br>FRANCISCO XAVIER GONZALEZ<br>ACUÑA Wolfgang Heil             | BOLETIN DE LA<br>SOCIEDAD<br>MATEMATICA<br>MEXICANA | 2025 |
| 2 | On the homeomorphism problem of trivalent 2-stratifolds with finite homology groups | FRANCISCO XAVIER GONZALEZ<br>ACUÑA J. C. Gomez-Larranaga<br>Wolfgang Heil                   | BOLETIN DE LA<br>SOCIEDAD<br>MATEMATICA<br>MEXICANA | 2024 |
| 3 | Heuri: A scrabble(C) playing engine using a probability-based heuristic             | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Alejandro Gonzalez Romero<br>Rene Alquezar Mancho et al. | ICGA JOURNAL                                        | 2022 |
| 4 | The number of simply-connected trivalent 2-dimensional stratifolds                  | JOSE CARLOS GOMEZ LARRAÑAGA<br>FRANCISCO XAVIER GONZALEZ<br>ACUÑA Heil W.                   | TOPOLOGY AND<br>ITS<br>APPLICATIONS                 | 2022 |
| 5 | 2-stratifolds with fundamental group Z                                              | JOSE CARLOS GOMEZ LARRAÑAGA<br>FRANCISCO XAVIER GONZALEZ<br>ACUÑA Wolfgang Heil             | TOPOLOGY AND<br>ITS<br>APPLICATIONS                 | 2021 |
| 6 | Models of simply-connected trivalent 2-dimensional stratifolds                      | JOSE CARLOS GOMEZ LARRAÑAGA<br>FRANCISCO XAVIER GONZALEZ<br>ACUÑA Heil W.                   | BOLETIN DE LA<br>SOCIEDAD<br>MATEMATICA<br>MEXICANA | 2020 |

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|    |                                                                                   |                                                                                                                 |                                                                                                              |      |
|----|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|------|
| 7  | 2-stratifold spines of closed 3-manifolds                                         | JOSE CARLOS GOMEZ LARRAÑAGA<br>FRANCISCO XAVIER GONZALEZ<br>ACUÑA Heil W.                                       | OSAKA<br>JOURNAL OF<br>MATHEMATICS                                                                           | 2020 |
| 8  | 2-STRATIFOLD SPINES OF CLOSED<br>3-MANIFOLDS                                      | JOSE CARLOS GOMEZ LARRAÑAGA<br>FRANCISCO XAVIER GONZALEZ<br>ACUÑA Wolfgang Heil                                 | OSAKA<br>JOURNAL OF<br>MATHEMATICS                                                                           | 2020 |
| 9  | Classification of simply-connected<br>trivalent 2-dimensional stratifolds         | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Gómez-Larrañaga J.C. Heil<br>W.                                              | Topology<br>Proceedings                                                                                      | 2018 |
| 10 | 2-Stratifold groups have solvable word<br>problem                                 | JOSE CARLOS GOMEZ LARRAÑAGA<br>FRANCISCO XAVIER GONZALEZ<br>ACUÑA Wolfgang Heil                                 | REVISTA DE LA<br>REAL ACADEMIA<br>DE CIENCIAS<br>EXACTAS<br>FISICAS Y<br>NATURALES<br>SERIE<br>A-MATEMATICAS | 2018 |
| 11 | 2-dimensional stratifolds homotopy<br>equivalent to $S^2$                         | JOSE CARLOS GOMEZ LARRAÑAGA<br>FRANCISCO XAVIER GONZALEZ<br>ACUÑA Heil, Wolfgang                                | TOPOLOGY AND<br>ITS<br>APPLICATIONS                                                                          | 2016 |
| 12 | On pretzel knots and Conjecture Z                                                 | JESUS RODRIGUEZ VIORATO<br>FRANCISCO XAVIER GONZALEZ<br>ACUÑA                                                   | JOURNAL OF<br>KNOT THEORY<br>AND ITS<br>RAMIFICATIONS                                                        | 2016 |
| 13 | On the K-category of 3-manifolds for K a<br>wedge of spheres or projective planes | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Gómez-Larrañaga J.C. Heil<br>W.                                              | Topology<br>Proceedings                                                                                      | 2014 |
| 14 | Finite metacyclic groups as active sums<br>of cyclic subgroups                    | ALEJANDRO JAVIER DIAZ BARRIGA<br>CASALES FRANCISCO XAVIER<br>GONZALEZ ACUÑA FRANCISCO<br>MARMOLEJO RIVAS et al. | COMPTES<br>RENDUS<br>MATHEMATIQUE                                                                            | 2014 |
| 15 | Categorical group invariants of<br>3-manifolds                                    | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Gomez-Larranaga, J. C. Heil,<br>Wolfgang                                     | MANUSCRIPTA<br>MATHEMATICA                                                                                   | 2014 |
| 16 | Amenable category of three-manifolds                                              | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Carlos Gomez-Larranaga,<br>Jose Heil, Wolfgang                               | Algebraic and<br>Geometric<br>Topology                                                                       | 2013 |
| 17 | S-2- and P-2-category of manifolds                                                | JOSE CARLOS GOMEZ LARRAÑAGA<br>FRANCISCO XAVIER GONZALEZ<br>ACUÑA Heil, Wolfgang                                | TOPOLOGY AND<br>ITS<br>APPLICATIONS                                                                          | 2012 |

**FRANCISCO XAVIER GONZALEZ ACUÑA**

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|----|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|------|
| 18 | Higher dimensional manifolds with S-1-category 2                              | JOSE CARLOS GOMEZ LARRAÑAGA<br>FRANCISCO XAVIER GONZALEZ<br>ACUÑA Heil, Wolfgang                                | MATHEMATISCH<br>E ZEITSCHRIFT                                     | 2012 |
| 19 | SELF-INTERSECTION NUMBERS OF PATHS IN COMPACT SURFACES                        | FRANCISCO XAVIER GONZALEZ<br>ACUÑA JESUS RODRIGUEZ VIORATO<br>Armas-Sanabria, Lorena                            | JOURNAL OF<br>KNOT THEORY<br>AND ITS<br>RAMIFICATIONS             | 2011 |
| 20 | Links in S3 of S1-category 2                                                  | FRANCISCO XAVIER GONZALEZ<br>ACUÑA GÓmez-Larrañaga J.C. Heil<br>W.                                              | Topology<br>Proceedings                                           | 2011 |
| 21 | Coverings of 3-manifolds by open balls and two open solid tori                | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Gomez-Larranaga, J. C. Heil,<br>Wolfgang                                     | TOPOLOGY AND<br>ITS<br>APPLICATIONS                               | 2010 |
| 22 | COVERINGS OF 3-MANIFOLDS BY THREE OPEN SOLID TORI                             | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Gomez-Larranaga, J. C. Heil,<br>Wolfgang H.                                  | JOURNAL OF<br>KNOT THEORY<br>AND ITS<br>RAMIFICATIONS             | 2010 |
| 23 | Manifolds with S-1-category 2 have cyclic fundamental groups                  | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Gomez-Larranaga, J. C. Heil,<br>Wolfgang                                     | MATHEMATISCH<br>E ZEITSCHRIFT                                     | 2010 |
| 24 | Human-like heuristics in scrabble                                             | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Gonzalez Romero A.<br>Alquezar R. et al.                                     | Frontiers In<br>Artificial<br>Intelligence<br>And<br>Applications | 2009 |
| 25 | A scrabble heuristic based on probability that performs at championship level | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Ramírez A. Romero A.G. et<br>al.                                             | Lecture Notes in<br>Computer<br>Science                           | 2009 |
| 26 | Fundamental groups of manifolds with S-1-category 2                           | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Gomez-Larranaga, J. C. Heil,<br>Wolfgang                                     | MATHEMATISCH<br>E ZEITSCHRIFT                                     | 2008 |
| 27 | A note on Hempel-McMillan coverings of 3-manifolds                            | FRANCISCO XAVIER GONZALEZ<br>ACUÑA GÓmez-Larrañaga J.C. Heil<br>W.                                              | TOPOLOGY AND<br>ITS<br>APPLICATIONS                               | 2007 |
| 28 | Jørgensen subgroups of the Picard group                                       | FRANCISCO XAVIER GONZALEZ<br>ACUÑA Ramírez A.                                                                   | OSAKA<br>JOURNAL OF<br>MATHEMATICS                                | 2007 |
| 29 | Active sums II                                                                | ALEJANDRO JAVIER DIAZ BARRIGA<br>CASALES FRANCISCO XAVIER<br>GONZALEZ ACUÑA FRANCISCO<br>MARMOLEJO RIVAS et al. | OSAKA<br>JOURNAL OF<br>MATHEMATICS                                | 2006 |

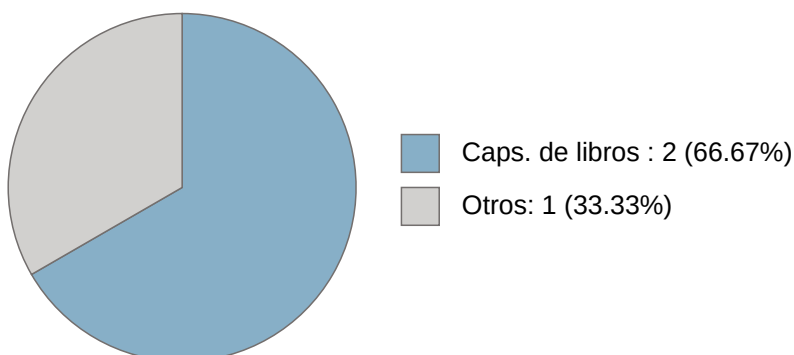
**FRANCISCO XAVIER GONZALEZ ACUÑA**

|    |                                                                                                   |                                                                  |                                                                 |      |
|----|---------------------------------------------------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------|------|
| 30 | A knot-theoretic equivalent of the Kervaire conjecture                                            | FRANCISCO XAVIER GONZALEZ ACUÑA Ramírez A.                       | JOURNAL OF KNOT THEORY AND ITS RAMIFICATIONS                    | 2006 |
| 31 | Epimorphisms of knot groups onto free products                                                    | FRANCISCO XAVIER GONZALEZ ACUÑA Ramírez A.                       | Topology                                                        | 2003 |
| 32 | Normal forms of generating pairs for Fuchsian and related groups                                  | FRANCISCO XAVIER GONZALEZ ACUÑA Ramírez A.                       | MATHEMATISCH E ANNALEN                                          | 2002 |
| 33 | Two-bridge knots with property Q                                                                  | FRANCISCO XAVIER GONZALEZ ACUÑA Ramírez A.                       | QUARTERLY JOURNAL OF MATHEMATICS                                | 2001 |
| 34 | A composition formula in the rank two free group                                                  | FRANCISCO XAVIER GONZALEZ ACUÑA                                  | PROCEEDINGS OF THE AMERICAN MATHEMATICAL SOCIETY                | 1999 |
| 35 | Homology category of 3-manifolds                                                                  | FRANCISCO XAVIER GONZALEZ ACUÑA Gómez-Larranaga J.C. Turaev V.G. | Topology And Its Applications                                   | 1999 |
| 36 | Coverings of links and a generalization of Riley's conjecture B                                   | FRANCISCO XAVIER GONZALEZ ACUÑA Ramírez A.                       | JOURNAL OF KNOT THEORY AND ITS RAMIFICATIONS                    | 1996 |
| 37 | Cohopficity of 3-manifold groups                                                                  | FRANCISCO XAVIER GONZALEZ ACUÑA Whitten W.                       | TOPOLOGY AND ITS APPLICATIONS                                   | 1994 |
| 38 | On the character variety of group representations in $SL(2, \mathbb{C})$ and $PSL(2, \mathbb{C})$ | FRANCISCO XAVIER GONZALEZ ACUÑA Montesinos-Amilibia J.M.         | MATHEMATISCH E ZEITSCHRIFT                                      | 1993 |
| 39 | Lusternik-Schnirelmann category of 3-manifolds                                                    | FRANCISCO XAVIER GONZALEZ ACUÑA Gómez-Larrañaga J.C.             | Topology                                                        | 1992 |
| 40 | Minimal atlases on 3-manifolds                                                                    | FRANCISCO XAVIER GONZALEZ ACUÑA Gómez-Larrañaga, J.C. Hoste, J.  | MATHEMATICAL PROCEEDINGS OF THE CAMBRIDGE PHILOSOPHICAL SOCIETY | 1991 |
| 41 | Surgery on double knots and symmetries                                                            | FRANCISCO XAVIER GONZALEZ ACUÑA Boileau M. Montesinos J.M.       | MATHEMATISCH E ANNALEN                                          | 1987 |
| 42 | Quasiaspherical knots with infinitely many ends                                                   | FRANCISCO XAVIER GONZALEZ ACUÑA Montesinos J.M.                  | COMMENTARII MATHEMATICI HELVETICI                               | 1983 |

**FRANCISCO XAVIER GONZALEZ ACUÑA**

**LIBROS Y CAPITULOS CON ISBN**

**Obras con registro ISBN**

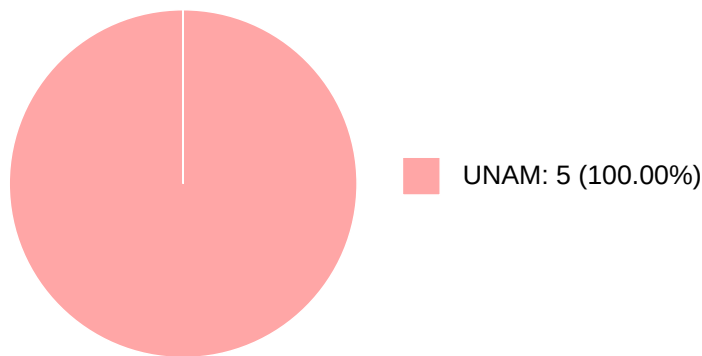


| # | Título                                    | Autores                                                                         | Alcance              | Año  | ISBN          |
|---|-------------------------------------------|---------------------------------------------------------------------------------|----------------------|------|---------------|
| 1 | Optimal Strategies for Penalty Kicks      | FRANCISCO XAVIER GONZALEZ ACUÑA<br>Alejandro Gonzalez Romero I Batyrshin et al. | Proceedings Paper    | 2018 | 9780769565927 |
| 2 | Surface-knot groups and 3-manifold groups | FRANCISCO XAVIER GONZALEZ ACUÑA                                                 | Capítulo de un Libro | 2016 | 9788460816843 |
| 3 | 2-Dimensional Stratifolds                 | FRANCISCO XAVIER GONZALEZ ACUÑA                                                 | Capítulo de un Libro | 2016 | 9788460816843 |

**FRANCISCO XAVIER GONZALEZ ACUÑA**

**PARTICIPACIÓN EN PROYECTOS**

**Histórico de participación en proyectos**



| # | Nombre                                                                       | Participantes                   | Fuente                                           | Fecha inicio | Fecha fin  |
|---|------------------------------------------------------------------------------|---------------------------------|--------------------------------------------------|--------------|------------|
| 1 | Sumas Activas de Grupos Finitos                                              | FRANCISCO XAVIER GONZALEZ ACUÑA | Presupuesto de la UNAM asignado a la Dependencia | 01-01-2017   | 31-12-2018 |
| 2 | Variedades Tridimensionales con Grupo Fundamental de Wirtinger               | FRANCISCO XAVIER GONZALEZ ACUÑA | Presupuesto de la UNAM asignado a la Dependencia | 01-01-2017   | 31-12-2019 |
| 3 | Sumas Activas de Grupos Finitos                                              | FRANCISCO XAVIER GONZALEZ ACUÑA | Presupuesto de la UNAM asignado a la Dependencia | 01-01-2017   | 31-12-2019 |
| 4 | Variedades tridimensionales no orientables con grupo superficial.            | FRANCISCO XAVIER GONZALEZ ACUÑA | Presupuesto de la UNAM asignado a la Dependencia | 01-01-2020   | 31-12-2023 |
| 5 | Variedades tridimensionales no orientables cerradas con grupo superficial II | FRANCISCO XAVIER GONZALEZ ACUÑA | Presupuesto de la UNAM asignado a la Dependencia | 01-01-2024   | 31-12-2027 |



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**FRANCISCO XAVIER GONZALEZ ACUÑA**

**PARTICIPACIÓN EN TESIS**

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

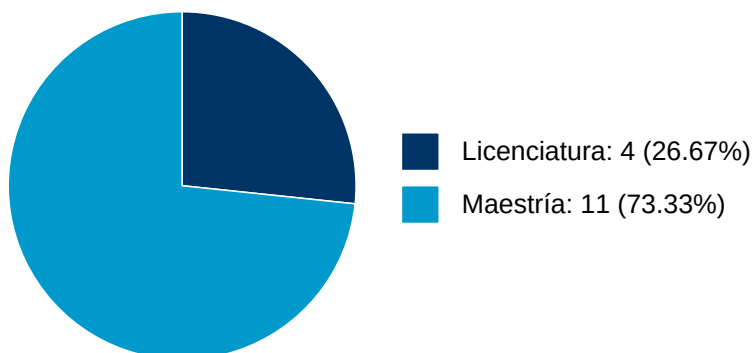
**FRANCISCO XAVIER GONZALEZ ACUÑA**



**FRANCISCO XAVIER GONZALEZ ACUÑA**

**DOCENCIA IMPARTIDA**

**Histórico de docencia**



| #  | Nivel titulación | Asignatura                                 | Entidad                  | Alumnos | Semestre |
|----|------------------|--------------------------------------------|--------------------------|---------|----------|
| 1  | Maestría         | TOPOLOGÍA GENERAL                          | Instituto de Matemáticas | 1       | 2024-2   |
| 2  | Maestría         | TOPOLOGÍA ALGEBRAICA                       | Instituto de Matemáticas | 4       | 2020-2   |
| 3  | Maestría         | TOPOLOGÍA ALGEBRAICA                       | Instituto de Matemáticas | 3       | 2019-2   |
| 4  | Maestría         | SEMINARIO DE PROBABILIDAD TEORIA DE JUEGOS | Instituto de Matemáticas | 1       | 2019-1   |
| 5  | Maestría         | TOPOLOGIA GENERAL-300636                   | Instituto de Matemáticas | 2       | 2017-1   |
| 6  | Maestría         | TOPOLOGIA GENERAL                          | Instituto de Matemáticas | 6       | 2016-1   |
| 7  | Maestría         | TOPOLOGIA ALGEBRAICA                       | Instituto de Matemáticas | 7       | 2014-2   |
| 8  | Maestría         | TOPOLOGIA GENERAL                          | Instituto de Matemáticas | 5       | 2014-1   |
| 9  | Maestría         | CURSO AVANZADO DE TOPOLOGIA                | Instituto de Matemáticas | 3       | 2013-1   |
| 10 | Maestría         | TOPOLOGIA ALGEBRAICA                       | Instituto de Matemáticas | 5       | 2012-2   |
| 11 | Maestría         | TOPOLOGIA GENERAL                          | Instituto de Matemáticas | 8       | 2012-1   |
| 12 | Licenciatura     | ALGEBRA LINEAL I                           | Facultad de Ciencias     | 64      | 2010-1   |
| 13 | Licenciatura     | ALGEBRA LINEAL I                           | Facultad de Ciencias     | 38      | 2009-2   |
| 14 | Licenciatura     | ALGEBRA LINEAL I                           | Facultad de Ciencias     | 57      | 2009-1   |
| 15 | Licenciatura     | ALGEBRA LINEAL II                          | Facultad de Ciencias     | 25      | 2008-2   |



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**FRANCISCO XAVIER GONZALEZ ACUÑA**

**PATENTES**

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

**FRANCISCO XAVIER GONZALEZ ACUÑA**

**FRANCISCO XAVIER GONZALEZ ACUÑA**

**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 |