



## **FABIAN NATANAEL MURRIETA RICO**

### **Datos Generales**

**Nombre:** FABIAN NATANAEL MURRIETA RICO

**Máximo nivel de estudios:** DOCTORADO

**Antigüedad académica en la UNAM:** 0 años, 4 meses, 1 día

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### **Nombramientos**

**Último:** AYUDANTE PROFESOR B TP No Definitivo  
Centro de Nanociencias y Nanotecnología en la  
UNAM  
Desde 01-10-2018 hasta 31-01-2019

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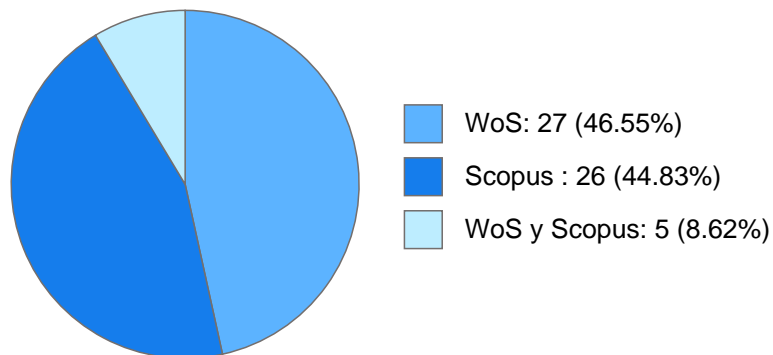
### **Estímulos, programas, premios y reconocimientos**

SNI I 2022 - 2023  
SNI C 2019 - 2021

## FABIAN NATANAEL MURRIETA RICO

### DOCUMENTOS EN REVISTAS

#### Histórico de Documentos



| # | Título   | Autores   | Revista                                   | Año  |
|---|--|---|---|------|
| 1 | Theoretical study of the electronic and optical properties of a composite formed by the zeolite NaA and a magnetite cluster  | JOEL ANTUNEZ GARCIA VITALI<br>PETRANOVSKI AFANASIEVNA H'LINH<br>HMOK et al.                     | BEILSTEIN<br>JOURNAL OF<br>NANOTECHNOLOGY | 2025 |
| 2 | Investigating patterns in aluminum distribution and stability in mordenite zeolite structure: Analysis and theoretical conclusions from existing experimental data | JOEL ANTUNEZ GARCIA VITALI<br>PETRANOVSKI AFANASIEVNA FABIAN<br>NATANAEL MURRIETA RICO et al.   | JOURNAL OF<br>SOLID STATE<br>CHEMISTRY    | 2024 |
| 3 | Textile Functionalization Using LTA and FAU Zeolitic Materials   | FABIAN NATANAEL MURRIETA RICO<br>ROSARIO ISIDRO YOCUPICIO<br>GAXIOLA JOEL ANTUNEZ GARCIA et al. | POLYMERS                                  | 2023 |
| 4 | One-Pot Synthesis of Iron-Modified Zeolite X and Characterization of the Obtained Materials  | FABIAN NATANAEL MURRIETA RICO<br>JOEL ANTUNEZ GARCIA ROSARIO<br>ISIDRO YOCUPICIO GAXIOLA et al. | CATALYSTS                                 | 2023 |
| 5 | Frequency Response Analysis of FAU, LTA and MFI Zeolites Using UV-Vis and Electrochemical Impedance Spectroscopy   | FABIAN NATANAEL MURRIETA RICO<br>JOEL ANTUNEZ GARCIA ROSARIO<br>ISIDRO YOCUPICIO GAXIOLA et al. | Optics                                    | 2023 |

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|    |   |  |  |      |
|----|---|--|--|------|
| 6  | First-Principles Study of Optical Properties of Linde-Type A Zeolite  | MUFEI XIAO WU ARMANDO REYES<br>SERRATO VITALI PETRANOVSKI<br>AFANASIEVNA et al.                            | PHYSICA<br>STATUS SOLIDI<br>B-BASIC SOLID<br>STATE PHYSICS   | 2023 |
| 7  | Aluminum distribution in mordenite-zeolite framework: A new outlook based on density functional theory calculations     | JOEL ANTUNEZ GARCIA DONALD<br>HOMERO GALVAN MARTINEZ VITALI<br>PETRANOVSKI AFANASIEVNA et al.              | JOURNAL OF<br>SOLID STATE<br>CHEMISTRY   | 2022 |
| 8  | Basic Aspects in the Application of QCMs as Sensors: A Tutorial   | FABIAN NATANAEL MURRIETA RICO<br>VITALI PETRANOVSKI AFANASIEVNA<br>DONALD HOMERO GALVAN MARTINEZ<br>et al. | IEEE SENSORS<br>JOURNAL  | 2022 |
| 9  | Zeolites as initial structures for the preparation of functional materials  | FABIAN NATANAEL MURRIETA RICO<br>JOEL ANTUNEZ GARCIA ROSARIO<br>ISIDRO YOCUPICIO GAXIOLA et al.            | Journal Of<br>Applied<br>Research And<br>Technology  | 2022 |
| 10 | Analysis of the effect of crystallization time during growth on the properties of zeolite LTA film on quartz substrates | FABIAN NATANAEL MURRIETA RICO<br>VITALI PETRANOVSKI AFANASIEVNA<br>JOEL ANTUNEZ GARCIA et al.              | INTERNATIONAL<br>CONFERENCES<br>& EXHIBITION<br>ON<br>NANOTECHNOL<br>OGIES,<br>ORGANIC<br>ELECTRONICS &<br>NANOMEDICINE,<br>NANOTEXNOLO<br>GY 2020, PT 1 | 2022 |
| 11 | Study of Electric and Magnetic Properties of Iron-Modified MFI Zeolite Prepared by a Mechanochemical Method             | FABIAN NATANAEL MURRIETA RICO<br>JOEL ANTUNEZ GARCIA ROSARIO<br>ISIDRO YOCUPICIO GAXIOLA et al.            | Materials  | 2022 |
| 12 | Evaluation of naturally synthesized ZnO for sensing applications using EIS  | FABIAN NATANAEL MURRIETA RICO<br>Luque M. Romo-Cardenas G. et al.  | INTERNATIONAL<br>CONFERENCES<br>& EXHIBITION<br>ON<br>NANOTECHNOL<br>OGIES,<br>ORGANIC<br>ELECTRONICS &<br>NANOMEDICINE,<br>NANOTEXNOLO<br>GY 2020, PT 1 | 2021 |

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|    |  |  |  |      |
|----|--|--|--|------|
| 13 | Zeolites with quantum dots as functional materials: current trends and perspectives for optical devices  | FABIAN NATANAEL MURRIETA RICO<br>VITALI PETRANOVSKI AFANASIEVNA<br>DONALD HOMERO GALVAN MARTINEZ<br>et al. | Proceedings Of<br>The IEEE<br>International<br>Symposium On<br>Industrial<br>Electronics | 2021 |
| 14 | Analytical solution to Scholte's secular equation for isotropic elastic media  | DONALD HOMERO GALVAN MARTINEZ<br>JONATHAN GUERRERO SANCHEZ<br>FABIAN NATANAEL MURRIETA RICO et<br>al.      | REVISTA<br>MEXICANA DE<br>FISICA   | 2021 |
| 15 | QCM modified with FAU zeolite nanostructures for analysis of temperature induced adsorbed mass changes   | FABIAN NATANAEL MURRIETA RICO<br>VITALI PETRANOVSKI AFANASIEVNA<br>DONALD HOMERO GALVAN MARTINEZ<br>et al. | Measurement  | 2021 |
| 16 | Electrochemical impedance characterization of ZnO semiconductor nanoparticles biosynthesized with <i>Verbascum thapsus</i>   | FABIAN NATANAEL MURRIETA RICO M.<br>E. Martínez-Rosas H. E.<br>Garrafa-Galvez et al.                       | JOURNAL OF<br>MATERIALS<br>SCIENCE-MATER<br>IALS IN<br>ELECTRONICS                       | 2021 |
| 17 | Facile Zinc Oxide Nanoparticle Green Synthesis Using Citrus <i>reticulata</i> Extract for Use in Optoelectronic Sensors  | ALFREDO RAFAEL VILCHIS NESTOR<br>FABIAN NATANAEL MURRIETA RICO<br>Priscy A. Luque et al.                   | IEEE SENSORS<br>JOURNAL  | 2021 |
| 18 | Frequency Shifts Estimation for Sensors Based on Optoelectronic Oscillators  | FABIAN NATANAEL MURRIETA RICO<br>VITALI PETRANOVSKI AFANASIEVNA<br>DONALD HOMERO GALVAN MARTINEZ<br>et al. | IEEE SENSORS<br>JOURNAL  | 2021 |
| 19 | The effect of chemical composition on the properties of LTA zeolite: A theoretical study   | JOEL ANTUNEZ GARCIA DONALD<br>HOMERO GALVAN MARTINEZ VITALI<br>PETRANOVSKI AFANASIEVNA et al.              | COMPUTATIONA<br>L MATERIALS<br>SCIENCE   | 2021 |
| 20 | Prospects for Further Development of Face Masks to Minimize Pandemics Functionalization of Textile Materials with Biocide Inorganic Nanoparticles: A Review        | VITALI PETRANOVSKI AFANASIEVNA<br>JOEL ANTUNEZ GARCIA GABRIEL<br>ALONSO NUÑEZ et al.                       | IEEE LATIN<br>AMERICA<br>TRANSACTIONS  | 2021 |
| 21 | Evaluation of electrochemical properties of zinc oxide based semiconductor nanoparticles biosynthesized with <i>Mentha spicata</i> for optoelectronic applications | FABIAN NATANAEL MURRIETA RICO O.<br>Nava M. E. Martínez-Rosas et al.                                       | MATERIALS<br>LETTERS   | 2020 |

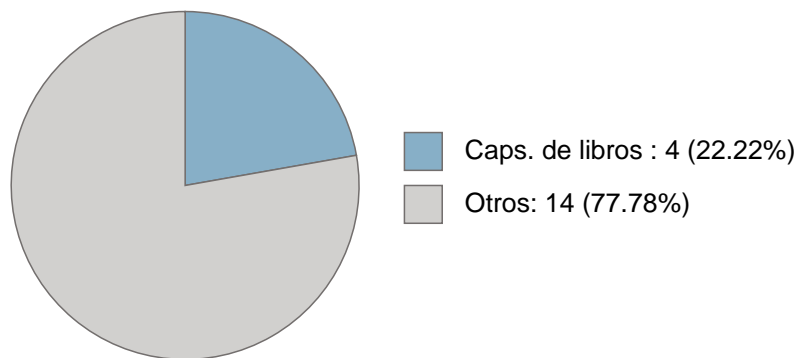
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|    |   |  |  |      |
|----|---|--|--|------|
| 22 | Phase effect in frequency measurements of a quartz crystal using the pulse coincidence principle  | FABIAN NATANAEL MURRIETA RICO<br>VITALI PETRANOVSKI AFANASIEVNA<br>DONALD HOMERO GALVAN MARTINEZ<br>et al. | Proceedings Of<br>The Ieee<br>International<br>Symposium On<br>Industrial<br>Electronics | 2020 |
| 23 | Local structures of two-dimensional zeolites?mordenite and ZSM-5?probed by multinuclear NMR   | FABIAN NATANAEL MURRIETA RICO<br>DONALD HOMERO GALVAN MARTINEZ<br>VITALI PETRANOVSKI AFANASIEVNA<br>et al. | Molecules  | 2020 |
| 24 | Theoretical study of the effect of isomorphous substitution by Al 3 + and/or Fe 3 + cations to tetrahedral positions in the framework of a zeolite with erionite topology | DONALD HOMERO GALVAN MARTINEZ<br>VITALI PETRANOVSKI AFANASIEVNA<br>FABIAN NATANAEL MURRIETA RICO et<br>al. | JOURNAL OF<br>MATERIALS<br>SCIENCE   | 2019 |
| 25 | Effect of phase in fast frequency measurements for sensors embedded in robotic systems  | FABIAN NATANAEL MURRIETA RICO<br>VITALI PETRANOVSKI AFANASIEVNA<br>JOEL ANTUNEZ GARCIA et al.              | INTERNATIONAL<br>JOURNAL OF<br>ADVANCED<br>ROBOTIC<br>SYSTEMS                            | 2019 |
| 26 | Experimental analysis of measurement process for a QCM using the pulse coincidence method   | FABIAN NATANAEL MURRIETA RICO<br>VITALI PETRANOVSKI AFANASIEVNA<br>Oleg Sergiyenko et al.                  | Ieee Industrial<br>Electronics<br>Society  | 2019 |
| 27 | Constraints definition and application optimization based on geometric analysis of the frequency measurement method by pulse coincidence                                  | FABIAN NATANAEL MURRIETA RICO<br>Avalos-Gonzalez D. Sergiyenko O.<br>et al.                                | Measurement  | 2018 |
| 28 | Exact laser beam positioning for measurement of vegetation vitality   | FABIAN NATANAEL MURRIETA RICO<br>Lindner L. Sergiyenko O. et al.   | IND ROBOT  | 2017 |
| 29 | Mobile robot vision system using continuous laser scanning for industrial application   | FABIAN NATANAEL MURRIETA RICO<br>Lindner L. Sergiyenko O. et al.   | IND ROBOT  | 2016 |

**FABIAN NATANAEL MURRIETA RICO**

**LIBROS Y CAPITULOS CON ISBN**

**Obras con registro ISBN**



| # | Título  | Autores  | Alcance              | Año  | ISBN          |
|---|---|--|----------------------|------|---------------|
| 1 | Evaluation of Time/Phase Parameters in Frequency Measurements for Inertial Navigation Systems | FABIAN NATANAEL MURRIETA RICO<br>Mercorelli P.<br>Rodriguez-Quinonez J.C.<br>et al.              | Conferencia Paper    | 2022 | 9781665482400 |
| 2 | Obstacle Coordinates Transformation from TVS Body-Frame to AGV Navigation-Frame               | FABIAN NATANAEL MURRIETA RICO<br>Garcia-Gutierrez X.D.J.<br>Alaniz-Plata R. et al.               | Conferencia Paper    | 2022 | 9781665482400 |
| 3 | Zeolites as functional materials in the development of sensors                                | FABIAN NATANAEL MURRIETA RICO VITALI<br>PETRANOVSKI<br>AFANASIEVNA JOEL<br>ANTUNEZ GARCIA et al. | Capítulo de un Libro | 2022 | 9798886972412 |
| 4 | Optoelectronic devices fusion in machine vision applications                                  | FABIAN NATANAEL MURRIETA RICO<br>Flores-Fuentes W.<br>Rivas-Lopez M. et al.                      | Capítulo de un Libro | 2021 | 9781799865247 |
| 5 | Advances in laser scanners  | FABIAN NATANAEL MURRIETA RICO Lindner<br>L. Sergiyenko O. et al.                                 | Capítulo de un Libro | 2021 | 9781799865247 |

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|----|--|--|-------------------------|------|---------------|
| 6  | Reduction of the Relative Positioning Error of a Machine Vision System Using Friction Compensation | FABIAN NATANAEL<br>MURRIETA RICO<br>Nunez-Lopez J.A. Castro<br>Toscano M.J.                                      | Conferenc<br>e Paper    | 2021 | 9781728190235 |
| 7  | Phase effect in frequency measurements of a quartz crystal using the pulse coincidence principle   | FABIAN NATANAEL<br>MURRIETA RICO VITALI<br>PETRANOVSKI<br>AFANASIEVNA DONALD<br>HOMERO GALVAN<br>MARTINEZ et al. | Conferenc<br>e Paper    | 2020 | 9781728156354 |
| 8  | Transimpedance Amplifier for Laser Scanning System Range Extension                                 | FABIAN NATANAEL<br>MURRIETA RICO Corpus<br>I.Y.A. Lindner L. et al.  | Conferenc<br>e Paper    | 2020 | 9781728156354 |
| 9  | Analysis of Spatial Localization Trough Frequency Counting for Accelerometers Embedded in INS      | FABIAN NATANAEL<br>MURRIETA RICO VITALI<br>PETRANOVSKI<br>AFANASIEVNA<br>Sanchez-Lopez J.D.D. et al.             | Conferenc<br>e Paper    | 2019 | 9781728136660 |
| 10 | Experimental analysis of measurement process for a QCM using the pulse coincidence method          | FABIAN NATANAEL<br>MURRIETA RICO VITALI<br>PETRANOVSKI<br>AFANASIEVNA<br>Sergiyenko O. et al.                    | Conferenc<br>e Paper    | 2019 | 9781728148786 |
| 11 | Defining the Final Angular Position of DC Motor shaft using a Trapezoidal Trajectory Profile       | FABIAN NATANAEL<br>MURRIETA RICO<br>Reyes-García M.<br>Sergiyenko O. et al.                                      | Conferenc<br>e Paper    | 2019 | 9781728136660 |
| 12 | Stereoscopic vision systems in machine vision, models, and applications                            | FABIAN NATANAEL<br>MURRIETA RICO<br>Ramírez-Hernández L.R.<br>Rodríguez-Quíñonez J.C.<br>et al.                  | Capítulo<br>de un Libro | 2019 | 9783030225872 |
| 13 | Application of fast frequency shift measurement method for INS in navigation of drones             | FABIAN NATANAEL<br>MURRIETA RICO<br>Avalos-Gonzalez D.<br>Hernandez-Balbuena D.<br>et al.                        | Conferenc<br>e Paper    | 2018 | 9781509066841 |
| 14 | Reduction of angular position error of a machine vision system using the digital controller LM629  | FABIAN NATANAEL<br>MURRIETA RICO<br>Reyes-García M. Lindner<br>L. et al.   | Conferenc<br>e Paper    | 2018 | 9781509066841 |



## FABIAN NATANAEL MURRIETA RICO

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|----|---|--|----------------------|------|---------------|
| 15 | Online SHM Optical Scanning Data Exchange   | FABIAN NATANAEL MURRIETA RICO<br>Flores-Fuentes W.<br>Rivas-López M. et al.                | Conferenc<br>e Paper | 2016 | 9781509008735 |
| 16 | Continuous 3D scanning mode using servomotors instead of stepping motors in dynamic laser triangulation           | FABIAN NATANAEL MURRIETA RICO Lindner<br>L. Sergiyenko O. et al.                           | Conferenc<br>e Paper | 2015 | 9781467375542 |
| 17 | Outlier mining of a vision sensing databasefor SVM regression improvement   | FABIAN NATANAEL MURRIETA RICO<br>Flores-Fuentes W.<br>Hernandez-Balbuena D.<br>et al.      | Conferenc<br>e Paper | 2015 | 9781479917624 |
| 18 | Accuracy improvement of vision system for mobile robot navigation by finding the energetic center of laser signal | FABIAN NATANAEL MURRIETA RICO<br>Basaca-Preciado L.C.<br>Rodriguez-Quinonez J.C.<br>et al. | Conferenc<br>e Paper | 2014 | 9781479940325 |





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



**FABIAN NATANAEL MURRIETA RICO**

**PARTICIPACIÓN EN PROYECTOS**

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

**FABIAN NATANAEL MURRIETA RICO**



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



**FABIAN NATANAEL MURRIETA RICO**

**PARTICIPACIÓN EN TESIS**

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

**FABIAN NATANAEL MURRIETA RICO**



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



**FABIAN NATANAEL MURRIETA RICO**

**DOCENCIA IMPARTIDA**

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

**FABIAN NATANAEL MURRIETA RICO**



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



**FABIAN NATANAEL MURRIETA RICO**

**PATENTES**

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

**FABIAN NATANAEL MURRIETA RICO**

**FABIAN NATANAEL MURRIETA RICO**

**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    | 2008-2024 |
| 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 |