SUMMARY

- Original publications in peer-reviewed journals with Impact factor: 7
- Published: 7
- Submitted papers: 6
- Submitted chapter of a book: 1
- Invited presentations at conferences/seminars: 5
- Websites: 2
- Active projects: 3
- Submitted new projects: 9
- Review of manuscripts for International and National journals and funding agencies: 47

Total productivity (without conferences, reviews, and reports) for 2017: 14

Average “Impact Factor” of all published papers in 2017: 3.186

Published and "in press" publications in peer-reviewed journals with an impact factor: 7


**Publication in the Internet:** 2


**Submitted publications: 6**


Submitted chapter of a book


Presentations at conferences: 5 (the invitee or the presenter = in bold)


Scientific recognition and international services

1. Promotion to the rank of Full Professor in the Mexican Federal Governmental Research System (Prof. Luz de-Bashan, Professor-Investigador Titular C).

2. 2017 – 2021. Promoted to the rank of “National Researcher Level 3” by the National research system (Highest rank, Sistema Nacional de Investigadores, SNI) of Mexico (Prof. Luz de-Bashan).

3. Institutional Homage by the Northwestern Center for Biological Research (CIBNOR) to Prof. Yoav Bashan for his lifetime contributions to Mexico and CIBNOR.
4. **National Recognition.** The Federal Government of Mexico via its National System of Researchers (SNI) recognized Prof. Yoav Bashan as “National Researcher by Merit”. This lifetime membership, is the highest scientific recognition the country offers and the first one for CIBNOR.

5. **Review of manuscripts** for journals, funding agencies and foreign universities: **Total: 47**

<table>
<thead>
<tr>
<th>Reviewer</th>
<th>Journal, University or Funding Agency</th>
<th>Country</th>
<th>Number of manuscripts</th>
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<tbody>
<tr>
<td>Yoav Bashan</td>
<td>Critical Reviews in Microbiology</td>
<td>UK</td>
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<td>Critical Reviews in Biotechnology</td>
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<td>Journal of Biomaterials Science</td>
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<td>Arid Land Research and Management</td>
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<td>Biology and Fertility of Soils</td>
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<td>Symbiosis</td>
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<td>Biotechnology for Biofuels</td>
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<td>World Journal of Microbiology and Biotechnology</td>
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<td>Annals of Microbiology</td>
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<td></td>
<td>Journal of Environmental Management</td>
<td>The Netherlands</td>
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<td>International Journal of Microbiology</td>
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<td>Journal of the Professional Association for Cactus Development</td>
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<td>Soil Research</td>
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<td>Frontiers in Plant Science</td>
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<td>France National Agency for research</td>
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<td>Luz de-Bashan</td>
<td>Journal of Applied Phycology</td>
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<td>Biology and Fertility of Soils</td>
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<td>Plant and Soil</td>
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<td>Revista de la Academia Colombiana de Ciencias Exactas, Físicas y Naturales</td>
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<td>Murdoch University-PhD Thesis</td>
<td>Australia</td>
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<tr>
<td>Blanca Lopez</td>
<td>Plant and Soil</td>
<td>Germany</td>
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External research projects: 3
(total: $4,315,000 pesos) (= US$ 240,000) (18 Mexican pesos = 1 USD).

“Establishment and functional optimization of natural and synthetic mutualisms”.
Funding: MN$ 3,000,000; Convocatoria CONACYT Investigación Científica Básica 2015 – Continuación de Proyecto de Grupo Consolidado –
Duration: 3 years (2016-2018).
PI: Prof. Yoav Bashan
Co-PI: Prof. Martin Heil CINVESTAV- Irapuato, Dr. Luz de-Bashan
Participantes: Dr. Gabriela Olmedo CINVESTAV- Irapuato, Dr. Blanca Lopez CIBNOR.

“Cooperación técnica México-Colombia: Mejoras en los procesos de producción de biofertilizantes aplicados en cultivos de interés agroindustrial en Colombia”
Funding: Agencia Mexicana de Cooperación Internacional para el Desarrollo, Secretaria de Relaciones Exteriores. Agencia Presidencial de Cooperación Internacional de Colombia.
Duration: 2 years (2017-2018).
PI: Prof. Yoav Bashan and Dr. Thelma Castellanos; Dr. Ruth Bonilla
Co-PI: Dr. Luz de-Bashan

“Symbiotic association between microalga and Plant Growth-Promoting Bacteria: reciprocal effect of extracellular metabolites on metabolism and gene expression of each partner” CONACYT Ciencia Basica 2016
Responsable Técnico: Dra. Luz Estela Gonzalez de Bashan
Duration: 2018-2020
Participantes
Dr. Yoav Bashan, Dra. Blanca Estela Romero Lopez, Dr. Oskar Palacios Microbiologia Ambiental, CIBNOR
Dra. Gracia Gómez Anduro Grupo de Biología Molecular de Plantas CIBNOR
Dr. Brendan Higgins, Biosystems Engineering Department, Auburn University
Funding: MN$ 1,320,000

Submitted projects: 9

1. “Endophytic bacteria of the woolly moss (Racomitrium lanuginosum): biogeography, ecology and geomicrobiology”.
Funding agency: Icelandic Research Fund (IRF) 2017- Via Bashan Institute of Science - USA
PI: Dr. Oddur Vilhelmsson, University of Akureyri, Iceland
Co-PI: Prof. Yaov Bashan, Dr. Luz E. de-Bashan

2. "Establishment and maintenance of synthetic mutualism between microalga and plant growth promoting bacteria”
Funding agency: National Science Foundation (NSF), USA- via Bashan Institute of Science - USA
PI: Dr. Luz de-Bashan
Co-PI: Prof. Yoav Bashan (BIS), Dr. David Blersch, Dr. Andres Carrano Auburn University
Participante: Dr. Blanca Lopez (CIBNOR) and Dr. Fabricio Cassan (University of Rio Cuarto, Argentina) (Not financed)
3. “Investigation of stresses produced during inoculant formation to improved susthetic inoculant for agriculture and the environment”.  
Funding agency: National Science Foundation (NSF), USA- Via Bashan Institute of Science - USA  
PI: Dr. Luz de-Bashan  
Co-PI: Prof. Yoav Bashan, Ass. Prof. Yi Wang Auburn University (Not financed)

4. Preliminary proposal, Proyecto de Grupo: “Recuperación de suelos degradados después de su uso agrícola, con inoculantes mixtos de microalga y bacterias promotoras de crecimiento vegetal, utilizando agave azul como planta modelo”  
CONACYT – Proyectos de desarrollo científico para atender problemas Nacionales 2017  
PI: Dr. Luz Estela Gonzalez de Bashan – CIBNOR  
coPI: Prof. Yoav Bashan – CIBNOR  
coPI: Dr. Froylán Mario Espinoza Escalante, Laboratorio de Metabolismo Microbiano, Universidad Autónoma de Guadalajara  
Participants  
Dr. Blanca Romero Lopez CIBNOR  
Dr. Oskar Palacios CIBNOR  
MC Manuel Moreno CIBNOR  
Presupuesto: $ 3,600.000

5. Preliminary proposal, Proyecto de Grupo “Análisis del metaboloma de la rizósfera de árboles de manglar y de sus comunidades microbianas asociadas, para la generación de indicadores específicos de conservación and restauración en ecosistemas árido-tropicales”.  
CONACYT, Proyectos de desarrollo científico para atender problemas Nacionales 2017  
PI: Dr. Yoav Bashan  
CoPI: Dr. José Carlos Espinoza Hicks. Facultad de Ciencias Químicas - Universidad Autónoma de Chihuahua (UACH).  
Participants  
Dra. Luz Estela González de Bashan CIBNOR  
Dra. Blanca Estela Romero López CIBNOR  
Dr. Oskar Alejandro Palacios López CIBNOR  
M.C. Manuel Moreno Legorreta CIBNOR  
Dr. Alejandro Alberto Camacho Dávila. Facultad de Ciencias Químicas - Universidad Autónoma de Chihuahua (UACH).  
Collaborator: Dr. Alexander Kamnev Institute of Biochemistry and Physiology of Plants and Microorganisms, Russian Academy of Sciences, Saratov, Russia. Asesorara los análisis e interpretación biológica de muestras provenientes de espectroscopia infrarroja  
Budget: $ 3,651.000

6. Preliminary proposal: Involvement of the bacterial endophytic microbiome in the biogeographical distribution and establishment of wild cacti in deserts  
NSF- Division of Environmental Biology  
PI. Yoav Bashan  
coPI. Luz Gonzalez de Bashan  
Participantes,  
Dr. Alfonso Medel y Dra. Blanca Romero. CIBNOR
Dr. Jesus Mercado-Blanco. Instituto para la Agricultura Sostenible (IAS, CSIC, Cordoba, España) Dra Gabrielle Berg y Dr. Armin Erlacher. Institute of Environmental Biotechnology, Graz University of Technology, Graz, Austria (Not financed)

7. “The threat to the magnificent Giant Mesquite Bug and their symbiotic bacteria from higher temperatures under climate change”  
Funding agency: University de Arizona (USA)- CONACYT-CAZMEX (Mexico)  
(PI) Dr. Judith Becerra (University of Arizona) and Dr. Luz de-Bashan (CIBNOR)  
(co-PI) Dr. Yoav Bashan  
(Not financed).

8. Project “Molecular and metabolic response of upland cotton (Gossypium hirsutum L.) to inoculation with rhizospheric and endophytic strains of the plant growth-promoting bacterium Azospirillum brasilense under salinity stresses”  
NSF-Plant Biotic Interactions  
PI: Prof. Yoav Bashan  
Co-PI: Prof. Luz Estela Bashan  
Co-PI: Dr. Yi Wang - Biosystems Engineering Department, Auburn University  
Postdoctoral researcher: Dr. Luisa Posada  
International collaboration  
Dr. Gracia Gomez, Northwestern Center for Biological Research, La Paz, Mexico, molecular plant physiology  
Dr. Fabrizio Cassan, National University of Rio Cuarto, Argentina, molecular plant/-microbe Interaction  
Dr. Lily Pereg, University of New England, Australia, bacterial molecular biology  
Budget: $ 915,303.00 USD

NSF-CBET Environmental Engineering  
PI: Prof. Yoav Bashan  
PI Auburn University, Dr. Brendan Higgins, Department of Biosystems Engineering.  
Co-PI: Prof. Luz de-Bashan  
Budget: $329,000 (USD).  
(Not approved for administrative requirements of the program)

Personnel in 2017  
(SNI-National academic ranking according to the National Research System of Mexico; Candidate<1< 2< 3<by Merit;  
H-index and citations according to Google Scholar, December 31, 2017)

Researchers (full time)  
1. Prof. Luz Gonzalez de-Bashan (SNI level 3; H-index-37; Citations- 7,867; life-time average Impact factor64 publication= 3.084)  
2. Prof. Yoav Bashan (SNI by Merit; H-index-74; Citations- 20,133; last 10 years, average Impact factor80 publication= 3.002)  
3. Dr. Macario Bacilio
Research Associates (full time)
4. Dr. Blanca Lopez (SNI level 1, H-index-6; Citations- 216)
5. Dr. Melisa Lopez-Vela (SNI-Candidate)

Catedra of CONACYT (full time)
6. Dr. Paola Magallon

Post doctoral fellow (full time)
7. Dr. Oskar Palacios (full time) (SNI-Candidate; H-index-5; Citations- 73)

Research staff (full-time)
8. M.Sc. Manuel Moreno (H-index-13; Citations- 1199)
9. M.Sc Salvador Reyes

Foreign research associate
10. M.Sc. Juan Pablo Hernandez- Universidad El Bosque, Bogota, Colombia (SNI level 1, H-index-17; Citations- 2128)

Graduate students (Research, full time)
12. cDr. Cristina Galaviz (CIBNOR since 2016) (with Dr. Francisco Magallon and Dr. Paola Magallon)
13. cDr. Jonathan Rojas (ITSON, Cd Obregon, Since 2016) (With Prof. Luz de-Bashan and Prof. Yoav Bashan, research stay to the end of 2017).
14. cMSc Dulce Espinoza (UNAM, Hermosillo) (With Dr. Blanca Lopez).
15. cDr. Edgar Amavizca (CIBNOR will start at January 2018) (With Prof. Luz de-Bashan and Prof. Yoav Bashan)
16. cMSc Violeta Iglesias (CIBNOR Since 2017) (With Prof. Luz de-Bashan).

Undergraduate student thesis (full time)
17. cLic Valeria Monroy (UABCS, La Paz since 2017) (With Dr. Oskar Palacios)

Webmasters
18. Dr. Afonso Medel (Webmaster-in-Chief).
19. M.Sc. Claudia Contreras (Assistant webmaster)

International and national collaborations in 2017
(in: projects, publications and supervising of graduate students in chronological order of cooperation)

2. Prof. Anton Hartmann. German Research Center for Environmental Health, München, (Germany). FISH and plant-bacteria interactions. (not active in 2017)
3. Prof. Martin Heil, CINVESTAV (Guanajuato, Mexico). Mutualism between microalgae and bacteria.
5. Prof. Joseph Kloeppep, and M.Sc. John McInroy, Auburn University (USA), PGPB/PGPR.
6. Dr. Ping Huang, Pathway Biologic, Florida (USA). PGPB/PGPR.
7. Prof. Gabriela Olmedo, CINVESTAV (Guanajuato, Mexico). Mutualism between microalgae and bacteria.
13. Prof. Rainer Borriss. Humboldt University (Germany). Molecular biology of desert bacilli. (not active in 2017)
16. Dr. Valeska Villegas Escobar and Dr. Luisa Posada. Universidad EAFIT, Medellín (Colombia). Detection of Bacillus subtilis (not active in 2017)
18. Dr. Xavier Myali. Lawrence Livermore National Laboratory, California (USA). Study of microalgae-bacteria interaction using nanoSIMS. (not active in 2017)
19. Dr. Peter Weber. Lawrence Livermore National Laboratory, California (USA). Study of microalgae-bacteria interaction using nanoSIMS. (not active in 2017)
22. Dr. Walter Osorio. (Colombia) Universidad Nacional de Colombia. PGPB and P fertilization.
23. Dr. Cristian Agurto. University of Concepcion. (Chile). Biotechnology of microalgae. (not active in 2017)
25. Prof. Roberto Riquelme (Chile) University of Concepcion. Modeling of microalgae growth. (not active in 2017)
26. Dr. Mauricio Schoebitz (Chile) University of Concepcion. Restoration of forests. (not active in 2017)
27. Dr. Ruth Bonilla. CORPOICA (Colombia). Improvement of bacterial inoculants.
28. Dr. Oddur Vilhelmsson (Iceland) University of Akurey. Endophyes from extreme environments.
30. Dr. Armin Erlacher, (Austria). Technical University of Graz. FISH and 3D modeling (not active in 2017).
32. Prof. Andres Carrano, (USA). Georgia Southern University. Microalgae bacteria interaction.
33. Dr. Yi Wang, (USA). Auburn University. Inoculants of PGPB.
34. Prof. Mark Liles (USA) Auburn University. Molecular biology of Microalgae. (not active in 2017)
35. **Dr. Ali Khalvati (Turkey)**. Bosphorus University. Mycorrhizae and wastewater treatment.
36. **Dr. Robert Armon (Israel)**. Israel Institute of Technology. Microalgae and energy cells. *(not active in 2017)*
37. **Dr. Camilo Ramirez (Colombia)** Universidad de Antioquia. PGPB and degraded soils.
38. **Dr. Pilar Ximena Lizarazo (Colombia)** Universidad de Antioquia. PGPB and cocoa grains
39. **Dr. Jesus Mercado-Blanco (Spain)**. CSIC-Cordoba. Endophytic bacteria from the desert.
40. **Dr. Brendan Higgins, (USA)**. Auburn University. Microalgae bacteria interaction.
41. **Dr. Francisco Magallon.** CIBNOR (Mexico). Microbiology of microalgae.
42. **Dr. Judith Becerra (USA)** University of Arizona. Entomological microbiology
43. **Dr. Sushil adhikari (USA)** Auburn University. Biofuel and Biochar.