

---

## Intercellular Interactions Promote Collective Behavior in Bacterial Colonies and Developing Epithelia

Aboutaleb Amiri

### Publication Date

12-04-2017

### License

This work is made available under a All Rights Reserved license and should only be used in accordance with that license.

### Citation for this work (American Psychological Association 7th edition)

Amiri, A. (2017). *Intercellular Interactions Promote Collective Behavior in Bacterial Colonies and Developing Epithelia* (Version 1). University of Notre Dame. <https://doi.org/10.7274/bc386h4682f>

This work was downloaded from CurateND, the University of Notre Dame's institutional repository.

For more information about this work, to report or an issue, or to preserve and share your original work, please contact the CurateND team for assistance at [curate@nd.edu](mailto:curate@nd.edu).

**AMERICAN PHYSICAL SOCIETY LICENSE  
TERMS AND CONDITIONS**

Apr 13, 2017

This Agreement between Aboutaleb Amiri ("You") and American Physical Society ("American Physical Society") consists of your license details and the terms and conditions provided by American Physical Society and Copyright Clearance Center.

License Number	4087230536360
License date	Apr 13, 2017
Licensed Content Publisher	American Physical Society
Licensed Content Publication	Physical Review E
Licensed Content Title	Reversals and collisions optimize protein exchange in bacterial swarms
Licensed Content Author	Aboutaleb Amiri et al.
Licensed Content Date	Mar 13, 2017
Licensed Content Volume	95
Type of Use	Thesis/Dissertation
Requestor type	Student
Format	Electronic
Portion	chart/graph/table/figure
Number of charts/graphs/tables/figures	4
Portion description	Figure 2; Figure 3; Figure 4; Figure 5
Rights for	Main product
Duration of use	Life of Current Edition
Creation of copies for the disabled	no
With minor editing privileges	no
For distribution to	Worldwide
In the following language(s)	Original language of publication
With incidental promotional use	no
The lifetime unit quantity of new product	0 to 499
The requesting person/organization is:	Aboutaleb Amiri
Order reference number	

Title of your thesis / dissertation	INTERCELLULAR INTERACTIONS PROMOTE COLLECTIVE BEHAVIOR IN BACTERIAL COLONIES AND DEVELOPING EPITHELIA
Expected completion date	May 2017
Expected size (number of pages)	110
Requestor Location	Aboutaleb Amiri 5509 University Park Drive  MISHAWAKA, IN 46545 United States Attn: Aboutaleb Amiri
Billing Type	Invoice
Billing Address	Aboutaleb Amiri 5509 University Park Drive  MISHAWAKA, IN 46545 United States Attn: Aboutaleb Amiri
Total	0.00 USD

#### Terms and Conditions

#### Terms and Conditions

The American Physical Society (APS) is pleased to grant the Requestor of this license a non-exclusive, non-transferable permission, limited to [**print** and/or **electronic** format, depending on what they chose], provided all criteria outlined below are followed.

1. You must also obtain permission from at least one of the lead authors for each separate work, if you haven't done so already. The author's name and affiliation can be found on the first page of the published Article.
2. For electronic format permissions, Requestor agrees to provide a hyperlink from the reprinted APS material using the source material's DOI on the web page where the work appears. The hyperlink should use the standard DOI resolution URL, <http://dx.doi.org/{DOI}>. The hyperlink may be embedded in the copyright credit line.
3. For print format permissions, Requestor agrees to print the required copyright credit line on the first page where the material appears: "Reprinted (abstract/excerpt/figure) with permission from [(FULL REFERENCE CITATION) as follows: Author's Names, APS Journal Title, Volume Number, Page Number and Year of Publication.] Copyright (YEAR) by the American Physical Society."
4. Permission granted in this license is for a one-time use and does not include permission for any future editions, updates, databases, formats or other matters. Permission must be sought for any additional use.
5. Use of the material does not and must not imply any endorsement by APS.
6. Under no circumstance does APS purport or intend to grant permission to reuse materials to which it does not hold copyright. It is the requestors sole responsibility to ensure the licensed material is original to APS and does not contain the copyright of another entity, and that the copyright notice of the figure, photograph, cover or table does not indicate that it

was reprinted by APS, with permission from another source.

7. The permission granted herein is personal to the Requestor for the use specified and is not transferable or assignable without express written permission of APS. This license may not be amended except in writing by APS.

8. You may not alter, edit or modify the material in any manner.

9. You may translate the materials only when translation rights have been granted.

10. You may not use the material for promotional, sales, advertising or marketing purposes.

11. The foregoing license shall not take effect unless and until APS or its agent, Copyright Clearance Center (CCC), receives payment in full in accordance with CCC Billing and Payment Terms and Conditions, which are incorporated herein by reference.

12. Should the terms of this license be violated at any time, APS or CCC may revoke the license with no refund to you and seek relief to the fullest extent of the laws of the USA.

Official written notice will be made using the contact information provided with the permission request. Failure to receive such notice will not nullify revocation of the permission.

13. APS reserves all rights not specifically granted herein.

14. This document, including the CCC Billing and Payment Terms and Conditions, shall be the entire agreement between the parties relating to the subject matter hereof.

#### **Other Terms and Conditions**

Version 1.1

**Questions? [customercare@copyright.com](mailto:customercare@copyright.com) or +1-855-239-3415 (toll free in the US) or +1-978-646-2777.**