

# Murat Çetinkaya

BASF SE, Carl-Bosch Strasse 38, 67056 Ludwigshafen, Germany • E-Mail: cetinkayam33@gmail.com • web: www.muratcetinkaya.net

## Personal Information

- Year of birth: 1982
- Citizenship: Turkey

## Education

- |                                     |                             |             |           |
|-------------------------------------|-----------------------------|-------------|-----------|
| • The Pennsylvania State University | Engr. Science and Mechanics | M.S./Ph.D.  | 2005/2008 |
| • The Pennsylvania State University | Computational Science       | Ph.D. minor | 2008      |
| • Middle East Technical University  | Mechanical Engineering      | B.S.        | 2003      |

## Experience

- |                       |   |              |
|-----------------------|---|--------------|
| • Lab Leader          | BASF SE, Germany                                  | 2010-Current |
| • Postdoctoral Fellow | Heidelberg Inst. for Theoretical Studies, Germany | 2009-2010    |
| • Postdoctoral Fellow | Heidelberg University/Max-Planck Inst., Germany   | 2008-2009    |
| • Research Assistant  | The Pennsylvania State University , USA           | 2004-2008    |
| • Teaching Assistant  | The Pennsylvania State University , USA           | 2006-2007    |

## Awards & Honors

- Alexander von Humboldt Fellowship for Postdoctoral Researchers, 2009-2010.
- Max-Planck Fellowship, 2008-2009.
- Graduate Research Fellowship, 2004-2008.
- Dept. of Engr. Science and Mechanics, Graduate Student Award, The Pennsylvania State University, 2006.

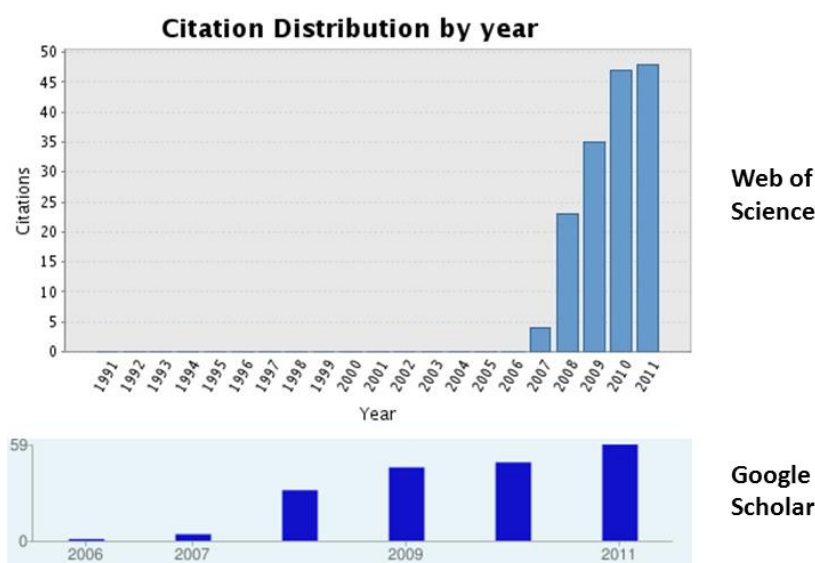
## Academic Overview

- Research at BASF SE (2010-Present): Lab leader in Materials Modeling Group. Working on computational modeling of polymer and surfactant based formulations in product development.
- Postdoctoral Research (2008-2010): Computational modeling of spider silk fibers with atomistic and continuum scale simulations. Conducted with Dr. Frauke Graeter (HITS).
- Doctoral Research (2005-2008): Synthesis and Characterization of Nanostructured Poly-P-Xylylene Films. Conducted with Dr. Melik C. Demirel (PSU).
- Masters Research (2004-2005): A Molecular Dynamics Study of Engineered Green Fluorescent Protein. Conducted with Dr. Melik C. Demirel (PSU).

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- This report reflects citations to source items indexed within Google Scholar and Thomson ISI Web of Science.



## Peer Review Publications

### Journal Publications

1. **Cetinkaya M**, Xiao S, Gräter F. Effects of Crystalline Subunit Size on Silk Fiber Mechanics, *Soft Matter*, 7:8142-8148, 2011.
2. **Cetinkaya M**, Xiao S, Gräter F. Bottom-up computational modeling of semicrystalline fibers: From atomistic to continuum scale. *Phys. Chem. Chem. Phys.* 13:10426-10429, 2011.
3. **Cetinkaya M**, Xiao S, Markert B, Stacklies W, Gräter F. Silk Fiber Mechanics From Multiscale Force Distribution Analysis. *Biophysical Journal*, 100:1298-1305, 2011.
4. Cheng S, **Cetinkaya M**, Gräter F. How sequence determines elasticity of disordered proteins. *Biophysical Journal*, 99:3863-3869, 2010.
5. Xiao S, Stacklies W, **Cetinkaya M**, Markert B, Gräter F. The mechanical response of silk crystalline units from force distribution analysis. *Biophysical Journal*, 96:3997-4005, 2009.
6. **Cetinkaya M**, Demirel MC. Bridging Experiments and Simulations in Oblique Angle Polymerization. *Chemical Vapor Deposition*, 15:1-5, 2009.
7. Kao P, Malvadkar N, **Cetinkaya M**, Wang H, Allara DL, Demirel MC. Surface Enhanced Raman Detection of Bacteria on Metalized Nanostructured Poly(p-xylylene) Films. *Advanced Materials*, 20:3562-3565, 2008.
8. **Cetinkaya M**, Malvadkar N, Demirel MC. Power-Law Scaling of Structured Poly(P-Xylylene) Films Deposited by Oblique Angle. *Journal of Polymer Science Part B*, 46:640-648, 2008.
9. Boduroglu S, **Cetinkaya M**, Dressick WJ, Singh A, Demirel MC. Controlling Wettability and Adhesion of Nanostructured Poly-(p-xylylene) Films. *Langmuir*, 23: 11391-11395, 2007.
10. Demirel MC, **Cetinkaya M**, Singh A, Dressick WJ. Non-Covalent Deposition of Nanoporous Ni Membranes on Spatially Organized Poly(p-xylylene) Film Templates. *Advanced Materials*, 19:4495-4499, 2007.
11. **Cetinkaya M**, Boduroglu S, Demirel MC. Growth of Nanostructured Thin Films of Poly(p-xylylene) Derivatives by Vapor Deposition. *Polymer*, 48 (14): 4130-4134, 2007.

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12. Demirel MC, Boduroglu S, **Cetinkaya M**, Lakhtakia A. Spatially Organized Free-Standing Poly(P-xylene) Nanowires Fabricated by Vapor Deposition. *Langmuir*, 23: 5861-5863, 2007.
13. **Cetinkaya M**, Zeytun A, Sofo J, Demirel MC. How Do Insertions Affect Green Fluorescent Protein? *Chemical Physics Letters*, 419: 48-54, 2005.

## Conference proceedings

1. **Cetinkaya M**, Salway L, Keskin O, Demirel MC. Conformational Changes and Small World Association in Proteins. Proceedings of 206<sup>th</sup> Electrochemical Society Meeting, 2005.
2. **Cetinkaya M**, Sofo J, Demirel MC. Protein Simulations in Confined Environments. Proceedings of SPIE, NANOMODELING; Akhlesh Lakhtakia, Sergey A. Maksimenko; Eds. Vol. 5509, p. 133-137, 2004.

## Professional Affiliations

- Alexander von Humboldt Foundation
- American Chemical Society
- Material Research Society
- Penn State Alumni Association
- Middle East Technical University Alumni Association

## Teaching Experience

- Statics Course (Instructor Teaching Assistant)
- Strength of Materials Course (Instructor Teaching Assistant)
- Short courses and workshops on molecular computation in undergraduate and graduate levels.