



## Despina Milathianaki

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### Bio

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#### BIO

Despina is the director of the Office of Technology Transfer and Strategic Partnerships, in the organization of the SLAC Deputy Director for Science and Technology. She and her team help accelerate the translation of cutting-edge research into transformative technologies and solutions through collaborations with industry, academia, and government partners. Before her current role, Despina served as senior director for Department of Energy partnerships in the quantum computing industry establishing important R&D efforts between the private sector and the national labs. Prior roles in the private sector included management consulting for Accenture UK and engineering for a Silicon valley startup. Despina first joined SLAC in 2010 as a staff scientist at the Linac Coherent Light Source investigating materials science at extreme conditions. She later transitioned to strategic planning where she served as the director of strategic planning and investment for SLAC. Despina holds a Bachelor's in Physics from Imperial College London and a Master's in Electrical Engineering from the University of Michigan. She completed her PhD in High Energy Density Physics at the University of Texas at Austin, conducting research at Lawrence Livermore National Laboratory.

### Publications

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#### PUBLICATIONS

- **Quantum computing hardware for HEP algorithms and sensing**

Alam, M., et al  
arXiv.

2022 ; FERMILAB-PUB-22-260-SQMS

- **Ultrafast structural changes within a photosynthetic reaction centre. *Nature***

Dods, R., Bath, P., Morozov, D., Gagner, V. A., Arnlund, D., Luk, H. L., Kubel, J., Maj, M., Vallejos, A., Wickstrand, C., Bosman, R., Beyerlein, K. R., Nelson, et al

2020

- **Femtosecond quantification of void evolution during rapid material failure *SCIENCE ADVANCES***

Coakley, J., Higginbotham, A., McGonegle, D., Ilavsky, J., Swinburne, T. D., Wark, J. S., Rahman, K. M., Vorontsov, V. A., Dye, D., Lane, T. J., Boutet, S., Koglin, J., Robinson, et al

2020; 6 (51)

- **Absolute Equation-of-State Measurement for Polystyrene from 25 to 60 Mbar Using a Spherically Converging Shock Wave *PHYSICAL REVIEW LETTERS***

Doepfner, T., Swift, D. C., Kritcher, A. L., Bachmann, B., Collins, G. W., Chapman, D. A., Hawreliak, J., Kraus, D., Nilsen, J., Rothman, S., Benedict, L. X., Dewald, E., Fratanduono, et al

2018; 121 (2): 025001

- **From Macrocystals to Microcrystals: A Strategy for Membrane Protein Serial Crystallography *STRUCTURE***

- Dods, R., Bath, P., Arnlund, D., Beyerlein, K. R., Nelson, G., Liang, M., Harimoorthy, R., Berntsen, P., Malmerberg, E., Johansson, L., Andersson, R., Bosman, R., Carbajo, et al  
2017; 25 (9): 1461+
- **Liquid explosions induced by X-ray laser pulses** *NATURE PHYSICS*  
Stan, C. A., Milathianaki, D., Laksmono, H., Sierra, R. G., McQueen, T. A., Messerschmidt, M., Williams, G. J., Koglin, J. E., Lane, T. J., Hayes, M. J., Guillet, S. A., Liang, M., Aquila, et al  
2016; 12 (10): 966-971
  - **Lipidic cubic phase injector is a viable crystal delivery system for time-resolved serial crystallography** *NATURE COMMUNICATIONS*  
Nogly, P., Panneels, V., Nelson, G., Gati, C., Kimura, T., Milne, C., Milathianaki, D., Kubo, M., Wu, W., Conrad, C., Coe, J., Bean, R., Zhao, et al  
2016; 7: 12314
  - **Picosecond dynamics of a shock-driven displacive phase transformation in Zr** *PHYSICAL REVIEW B*  
Swinburne, T. D., Glavicic, M. G., Rahman, K. M., Jones, N. G., Coakley, J., Eakins, D. E., White, T. G., Tong, V., Milathianaki, D., Williams, G. J., Rugg, D., Sutton, A. P., Dye, et al  
2016; 93 (14)
  - **Direct observation of ultrafast collective motions in CO myoglobin upon ligand dissociation** *SCIENCE*  
Barends, T. R. M., Foucar, L., Ardevol, A., Nass, K., Aquila, A., Botha, S., Doak, R., Falahati, K., Hartmann, E., Hilpert, M., Heinz, M., Hoffmann, M. C., Koefinger, et al  
2015; 350 (6259): 445–50
  - **Ultrafast visualization of crystallization and grain growth in shock-compressed SiO<sub>2</sub> (vol 6, 8191, 2015)** *NATURE COMMUNICATIONS*  
Gleason, A. E., Bolme, C. A., Lee, H. J., Nagler, B., Galtier, E., Milathianaki, D., Hawreliak, J., Kraus, R. G., Eggert, J. H., Fratanduono, D. E., Collins, G. W., Sandberg, R., Yang, et al  
2015; 6
  - **The Matter in Extreme Conditions instrument at the Linac Coherent Light Source** *JOURNAL OF SYNCHROTRON RADIATION*  
Nagler, B., Arnold, B., Bouchard, G., Boyce, R. F., Boyce, R. M., Callen, A., Campell, M., Curiel, R., Galtier, E., Garofoli, J., Granados, E., Hastings, J., Hays, et al  
2015; 22: 520-525
  - **The Coherent X-ray Imaging instrument at the Linac Coherent Light Source** *JOURNAL OF SYNCHROTRON RADIATION*  
Liang, M., Williams, G. J., Messerschmidt, M., Seibert, M., Montanez, P. A., Hayes, M., Milathianaki, D., Aquila, A., Hunter, M. S., Koglin, J. E., Schafer, D. W., Guillet, S., Busse, et al  
2015; 22: 514–19
  - **Optical laser systems at the Linac Coherent Light Source** *JOURNAL OF SYNCHROTRON RADIATION*  
Minitti, M. P., Robinson, J. S., Coffee, R. N., Edstrom, S., Gilevich, S., Glowina, J. M., Granados, E., Hering, P., Hoffmann, M. C., Miahnahri, A., Milathianaki, D., Polzin, W., Ratner, et al  
2015; 22: 526–31
  - **Time-resolved serial crystallography captures high-resolution intermediates of photoactive yellow protein** *SCIENCE*  
Tenboer, J., Basu, S., Zatsepin, N., Pande, K., Milathianaki, D., Frank, M., Hunter, M., Boutet, S., Williams, G. J., Koglin, J. E., Oberthuer, D., Heymann, M., Kupitz, et al  
2014; 346 (6214): 1242-1246
  - **Serial time-resolved crystallography of photosystem II using a femtosecond X-ray laser** *NATURE*  
Kupitz, C., Basu, S., Grotjohann, I., Fromme, R., Zatsepin, N. A., Rendek, K. N., Hunter, M. S., Shoeman, R. L., White, T. A., Wang, D., James, D., Yang, J., Cobb, et al  
2014; 513 (7517): 261-?
  - **Visualizing a protein quake with time-resolved X-ray scattering at a free-electron laser** *NATURE METHODS*  
Arnlund, D., Johansson, L. C., Wickstrand, C., Barty, A., Williams, G. J., Malmerberg, E., Davidsson, J., Milathianaki, D., DePonte, D. P., Shoeman, R. L., Wang, D., James, D., Katona, et al  
2014; 11 (9): 923–26
  - **Taking snapshots of photosynthetic water oxidation using femtosecond X-ray diffraction and spectroscopy** *NATURE COMMUNICATIONS*  
Kern, J., Tran, R., Alonso-Mori, R., Koroidov, S., Echols, N., Hattne, J., Ibrahim, M., Gul, S., Laksmono, H., Sierra, R. G., Gildea, R. J., Han, G., Hellmich, et al

2014; 5

- **Accurate macromolecular structures using minimal measurements from X-ray free-electron lasers** *NATURE METHODS*  
Hattne, J., Echols, N., Rosalie Tran, R., Kern, J., Gildea, R. J., Brewster, A. S., Alonso-Mori, R., Gloeckner, C., Hellmich, J., Laksmono, H., Sierra, R. G., Lassalle-Kaiser, B., Lampe, et al  
2014; 11 (5): 545-548
- **Combined Hydrodynamic and Diffraction Simulations of Femtosecond X-ray Scattering from Laser-Shocked Crystals**  
Wark, J. S., Higginbotham, A., Milathianaki, D., Gleason, A.  
edited by Buttler, W., Furlanetto, M., Evans, W.  
IOP PUBLISHING LTD.2014
- **Femtosecond Visualization of Lattice Dynamics in Shock-Compressed Matter** *SCIENCE*  
Milathianaki, D., Boutet, S., Williams, G. J., Higginbotham, A., Ratner, D., Gleason, A. E., Messerschmidt, M., Seibert, M. M., Swift, D. C., Hering, P., Robinson, J., White, W. E., Wark, et al  
2013; 342 (6155): 220-223
- **Simultaneous Femtosecond X-ray Spectroscopy and Diffraction of Photosystem II at Room Temperature** *SCIENCE*  
Kern, J., Alonso-Mori, R., Tran, R., Hattne, J., Gildea, R. J., Echols, N., Gloeckner, C., Hellmich, J., Laksmono, H., Sierra, R. G., Lassalle-Kaiser, B., Koroidov, S., Lampe, et al  
2013; 340 (6131): 491-495
- **Nanoflow electrospinning serial femtosecond crystallography** *ACTA CRYSTALLOGRAPHICA SECTION D-BIOLOGICAL CRYSTALLOGRAPHY*  
Sierra, R. G., Laksmono, H., Kern, J., Rosalie Tran, R., Hattne, J., Alonso-Mori, R., Lassalle-Kaiser, B., Gloeckner, C., Hellmich, J., Schafer, D. W., Echols, N., Gildea, R. J., Grosse-Kunstleve, et al  
2012; 68: 1584-1587
- **A Seeman-Bohlin geometry for high-resolution nanosecond x-ray diffraction measurements from shocked polycrystalline and amorphous materials** *REVIEW OF SCIENTIFIC INSTRUMENTS*  
Milathianaki, D., Hawreliak, J., McNaney, J. M., El-Dasher, B. S., Saculla, M. D., Swift, D. C., Lorenzana, H. E., Ditmire, T.  
2009; 80 (9): 093904
- **Laser-induced spall of aluminum and aluminum alloys at high strain rates**  
Dalton, D. A., Brewer, J., Bernstein, A. C., Grigsby, W., Milathianaki, D., Jackson, E., Adams, R., Rambo, P., Schwarz, J., Edens, A., Geissel, M., Smith, I., Taleff, et al  
edited by Elert, M., Furnish, M. D., Chau, R., Holmes, N. C., Nguyen, J.  
AMER INST PHYSICS.2007: 501-+