

NATO Science for Peace and Security Series - A:  
Chemistry and Biology

## Engineering Crystallography: From Molecule to Crystal to Functional Form

Edited by  
Kevin J. Roberts  
Robert Docherty  
Rui TamuraThis publication  
is supported byThe NATO Science for Peace  
and Security Programme1st ed. 2017, XXIII, 478 p. 274 illus., 159  
illus. in color.

### Printed book

Hardcover

199,99 € | £175.50 | \$269.00

<sup>[1]</sup>213,99 € (D) | 219,99 € (A) | CHF  
236,00

Softcover

99,99 € | £88.00 | \$129.00

<sup>[1]</sup>106,99 € (D) | 109,99 € (A) | CHF  
118,00

### eBook

85,59 € | £70.00 | \$99.00

<sup>[2]</sup>85,59 € (D) | 85,59 € (A) | CHF  
94,00Available from your library or  
[springer.com/shop](http://springer.com/shop)

### MyCopy <sup>[3]</sup>

Printed eBook for just

€ | \$ 24.99

[springer.com/mycopy](http://springer.com/mycopy)

Kevin J. Roberts, Robert Docherty, Rui Tamura (Eds.)

# Engineering Crystallography: From Molecule to Crystal to Functional Form

Series: NATO Science for Peace and Security Series A: Chemistry and  
Biology

- Includes integrated, descriptive pathway from molecule to crystal to functional form
- Presents extensive review of materials preparation and their characterisation
- Provides crystal science underpinning the design and supply of advanced high added-value materials

This book highlights the current state-of-the-art regarding the application of applied crystallographic methodologies for understanding, predicting and controlling the transformation from the molecular to crystalline state with the latter exhibiting pre-defined properties. This philosophy is built around the fundamental principles underpinning the three inter-connected themes of Form (what), Formation (how) and Function (why). Topics covered include: molecular and crystal structure, chirality and ferromagnetism, supramolecular assembly, defects and reactivity, morphology and surface energetics. Approaches for preparing crystals and nano-crystals with novel physical, chemical and mechanical properties include: crystallisation, seeding, phase diagrams, polymorphic control, chiral separation, ultrasonic techniques and mechano-chemistry. The vision is realised through examination of a range of advanced analytical characterisation techniques including in-situ studies. The work is underpinned through an unprecedented structural perspective of molecular features, solid-state packing arrangements and surface energetics as well as in-situ studies. This work will be of interest to researchers, industrialists, intellectual property specialists and policy makers interested in the latest developments in the design and supply of advanced high added-value organic solid-form materials and product composites.

Order online at [springer.com](http://springer.com) / or for the Americas call (toll free) 1-800-SPRINGER / or email us at: [customerservice@springernature.com](mailto:customerservice@springernature.com). / For outside the Americas call +49 (0) 6221-345-4301 / or email us at: [customerservice@springernature.com](mailto:customerservice@springernature.com).

The first € price and the £ and \$ price are net prices, subject to local VAT. Prices indicated with [1] include VAT for books; the €(D) includes 7% for Germany, the €(A) includes 10% for Austria. Prices indicated with [2] include VAT for electronic products; 19% for Germany, 20% for Austria. All prices exclusive of carriage charges. Prices and other details are subject to change without notice. All errors and omissions excepted. [3] No discount for MyCopy.

