

# Index

## A

Algae, 2, 6–13, 15–17  
Atomics modeling, 42–50

## B

Biological materials, 1, 2, 22, 37–39, 42, 45, 46, 54, 55, 61, 62, 64–74, 81, 88  
Biology, 5–17, 22, 25, 26, 62, 64–73, 75  
Biomimetics, 21–24, 26–29, 31–33, 37–54, 73–75

## C

Computational and experimental analyses, 83, 87  
Crustacean, 21, 22, 24, 26, 27, 29, 31–33, 88

## E

Effect of interface deformation, 84  
Effect of interfaces, 2, 42–50, 62, 66–68

## H

Hierarchical modeling, 62, 65, 68  
High temperature shrimp, 22, 26

## I

Interface chemistry, 2, 9, 22, 42–50, 62, 64, 66, 75, 81, 87

Interface creep, 87

Interface effect, 42–50, 62, 81, 83, 84, 89, 90

Interface properties, 81, 82

## M

Material chemistry, 5, 62, 65–73  
Mechanics of interface deformation, 82  
Microscopy, 2, 7, 8, 21, 22, 24, 26–29, 31–33, 50, 68  
Multiscale modeling, 61, 62, 64–66, 68–71, 73–75

## N

Nanoindentation, 23–25, 27, 31, 51, 67  
Nanomechanics, 2, 21–24, 26, 27, 29, 31–33, 37–39, 41–52, 54–56  
Nanoscale modeling, 1, 5, 9, 39, 41–42

## P

Phenomenological models, 3, 61, 62, 64–75

## R

Raman, 5–17

## S

Small-scale biological mechanics, 21