

## **Early research:**

Terzopoulos, Demetri, John Platt, Alan Barr, and Kurt Fleischer. "Elastically deformable models." In ACM Siggraph Computer Graphics, vol. 21, no. 4, pp. 205-214. ACM, 1987.

## **O'Brien: Finite Elements .. Fracture / Breaking objects**

James O'Brien, Jessica Hodgins, "Graphical Modeling and Animation of Brittle Fracture," SIGGRAPH 1999. <http://graphics.berkeley.edu/papers/Obrien-GMA-1999-08/index.html>

James O'Brien, Adam Bargteil, Jessica Hodgins, "Graphical Modeling and Animation of Ductile Fracture," SIGGRAPH 2002. <http://graphics.berkeley.edu/papers/Obrien-GMA-2002-08/index.html>

Eric G. Parker, James O'Brien, "Real-Time Deformation and Fracture in a Game Environment," SCA 2009. <http://graphics.berkeley.edu/papers/Parker-RTD-2009-08/index.html>

## **Handling large deformations:**

Irving, Geoffrey, Joseph Teran, and Ron Fedkiw. "Invertible finite elements for robust simulation of large deformation." In Proceedings of the 2004 ACM SIGGRAPH/Eurographics symposium on Computer animation, pp. 131-140. Eurographics Association, 2004. <http://naml.us/~irving/>

## **Point Based Representation:**

Müller, Matthias, Richard Keiser, Andrew Nealen, Mark Pauly, Markus Gross, and Marc Alexa. "Point based animation of elastic, plastic and melting objects." In Proceedings of the 2004 ACM SIGGRAPH/Eurographics symposium on Computer animation, pp. 141-151. Eurographics Association, 2004. <http://www.matthiasmueller.info/>

J. Bender, M. Müller, M. A. Otaduy, M. Teschner, Position-based Methods for the Simulation of Solid Objects in Computer Graphics, in EUROGRAPHICS 2013 State of the Art Report, Girona, Spain, May 6-10 2013, <http://www.matthiasmueller.info/publications/STAR2013.pdf>

## SIGGRAPH 2012 papers on control of deformables:

Soft Body Locomotion   

[Jie Tan](#), [Greg Turk](#), [Karen Liu](#) ([Georgia Institute of Technology](#))

Deformable Objects Alive!  

[Stelian Coros](#) ([Disney Research Zurich](#)), [Sebastian Martin](#) ([ETH Zurich](#)), [Bernhard Thomaszewski](#) ([Disney Research Zurich](#)), Christian Schumacher, [Robert Sumner](#) ([Disney Research Zurich](#)), [Markus Gross](#) ([ETH Zurich](#) and [Disney Research Zurich](#))

Fast Simulation of Skeleton-Driven Deformable Body Characters     (TOG Paper)

[Junggon Kim](#), [Nancy Pollard](#) ([Carnegie Mellon University](#))

Interactive Editing of Deformable Simulations   

[Jernej Barbic](#), Fun Shing Sin ([University of Southern California](#)), [Eitan Grinspun](#) ([Columbia University](#))

Interactive spacetime control of deformable objects   

[Klaus Hildebrandt](#), [Christian Schulz](#), [Christoph von Tycowicz](#), [Konrad Polthier](#) ([Freie Universitat Berlin](#))

Rig-Space Physics  

Fabian Hahn ([Disney Research Zurich](#)), [Sebastian Martin](#) ([ETH Zurich](#)), [Bernhard Thomaszewski](#), [Robert Sumner](#), [Stelian Coros](#) ([Disney Research Zurich](#)), [Markus Gross](#) ([ETH Zurich](#) and [Disney Research Zurich](#))