



# ROUGH & TUMBLE

## Taking Play Seriously

### Film Summary

From the Rwandan jungle to the university laboratory, *Rough & Tumble: Taking Play Seriously* features the play of gorillas, dogs, rats, and dolphins and explains why play is so necessary for the healthy development of children. Through play, we learn the rules of social behavior, how to bond with others and develop our imaginations, while improving our physical and emotional well-being. *Rough & Tumble* reminds us about the joy and connection we can experience playing, as kids and adults.



a documentary by Yuri Makino, 21:43 minutes, c. 2025  
takingplayseriously.com  
distributed by BullFrog Films



# Subject Areas

Child Development  
Early Childhood Education  
Developmental Psychology  
Play Therapy  
Neuroscience  
Behavioral Science  
Ethology  
Anthropology  
Evolutionary Biology

## Audiences

Educators  
Parents and Caregivers  
Community Organizations  
Child Advocacy Groups  
Healthcare Professionals  
Researchers and Scholars  
Education Policy Makers  
Animal Wellness Advocates  
General Public

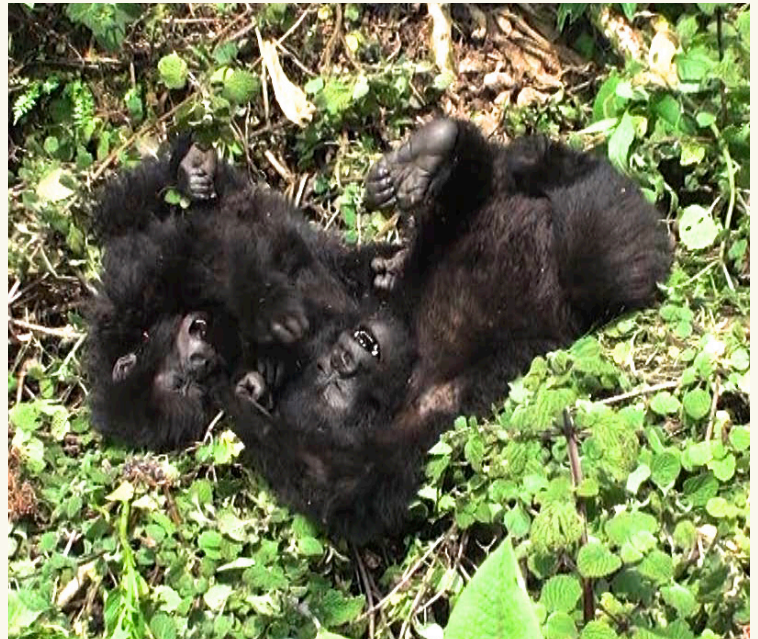


photo by Jeff Smith



# Discussion Questions

## General Understanding

1. How do you think the study of animal play can help us understand human behavior and development?
2. What messages did the film convey about the role of play in a child's life?
3. What were the most memorable scenes or examples of animal play in the film? Why did they stand out to you?
4. How did the film define "play"? Did it include different types (e.g., imaginative, physical, social)?
5. Were there any examples of play that surprised you or challenged your previous views?

## Developmental Benefits

1. How did the film show that play contributes to emotional, social, or cognitive development? What are the deferred and immediate benefits of non-human animal and human play?
2. What connections did you see between play and skills like problem-solving, creativity, or empathy?
3. How is "play" defined by the scientists in the documentary? What are the key criteria they use to distinguish play from other behaviors?
4. What similarities and differences did you observe in play behaviors among different species, including humans?
5. Did the film explore how different types of play support different aspects of development (e.g., solitary vs group play)?

## Cultural and Social Factors

1. How did the film address the impact of culture or technology on play?
2. Did the film address challenges like screen time or reduced outdoor play? What solutions did it propose?
3. How has the role of play changed over the years, according to the film? Do you agree with this portrayal?

## Personal Reflection

1. Did the film make you reflect on your own experiences with play as a child? In what ways?
2. What changes, if any, would you make in your own environment (as a parent, educator, etc.) after watching the film?
3. What role do parents, teachers, or communities play in facilitating (or limiting) play?
4. How can communities better support children's right to play?
5. Do you think the play behaviors shown are evidence of animals experiencing joy or other complex feelings?

## Brainstorming & Discussion Activities

### **Brainstorming the "Play-Pillars"**

As a class, identify the main developmental areas discussed in the documentary—for example, cognitive, social, emotional, and physical development. Then, have students brainstorm specific examples of play for each category. For instance, building with blocks supports cognitive and physical development, while playing "house" supports social and emotional skills.

### **"Play Memories" Circle**

Have students share a favorite childhood memory related to play with family, friends and/or pets. Then, as they share, the class can try to identify which developmental skills were being practiced in that memory. For example, a student who remembers building a fort with a friend may have been developing problem-solving skills (cognitive) and negotiation skills (social). This activity helps connect the abstract concepts from the documentary to their personal experiences.

## Hands-On Activities

### **Create a "Play Prescription" for Parents**

Students can work individually or in pairs to create a brochure for new parents. The "prescription" should explain in simple terms why play is essential for their child's development and provide concrete, low-cost ideas for play activities for different age groups. This activity requires students to synthesize information from the documentary and present it in a clear, practical format.



photo by Jeff Smith

# Reflective & Research-Based Activities

## **Personal Reflection Essay**

Students can write a short essay on how play has shaped their own development. They can answer prompts like, "How did a favorite childhood game teach you to handle conflict?", "What role did imaginative play have in developing your creativity?", or "Did playing with your pet help you develop your social or emotional skills?" This activity helps connect the abstract concepts from the documentary to their personal experiences.

## **Case Study Analysis**

Provide students with a short case study of a child who has limited opportunities for play. They can then write a response analyzing the potential developmental deficits that child might experience based on what they learned from the documentary. This activity requires critical thinking and the application of new knowledge to a hypothetical scenario.

## **Researching a Play Expert in the film**

Students can choose a key play expert mentioned in the documentary (Jaak Panksepp, Marc Bekoff, Anthony Pelligrini etc.) or research another one. They should then prepare a short presentation or a written report that explains the theorist's main ideas about play and how their work influenced our understanding of play in animals and humans.



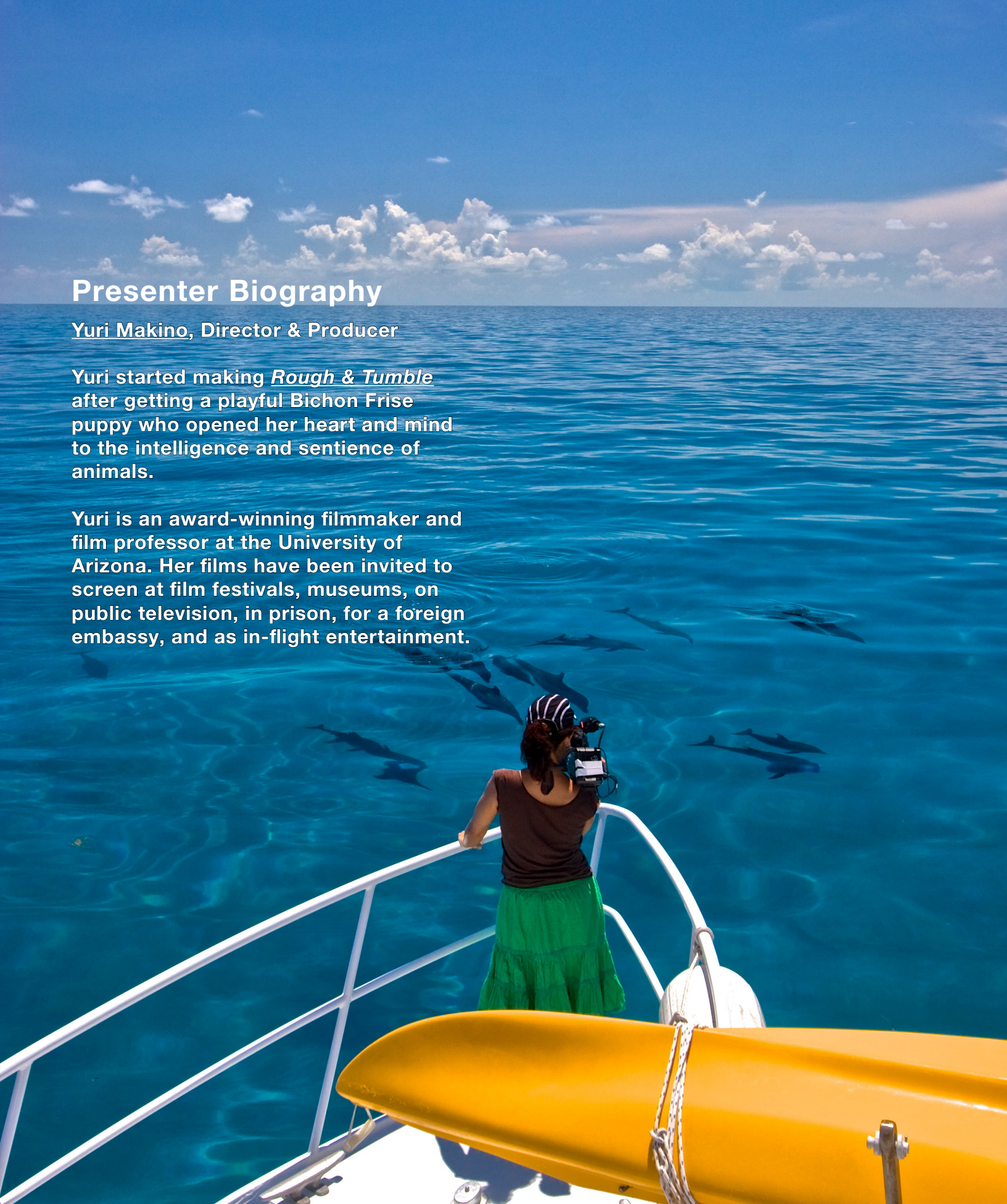


## Presenter Biography

Yuri Makino, Director & Producer

Yuri started making *Rough & Tumble* after getting a playful Bichon Frise puppy who opened her heart and mind to the intelligence and sentience of animals.

Yuri is an award-winning filmmaker and film professor at the University of Arizona. Her films have been invited to screen at film festivals, museums, on public television, in prison, for a foreign embassy, and as in-flight entertainment.





## Participant Biographies

**Karen Atkinson**, M.Ed., is a respected Waldorf educator, pedagogical leader, and consultant with over 30 years of experience guiding teachers and school leaders. She holds a Master's in Education from Antioch University New England and dual certification in Waldorf Teacher Education for both early childhood and elementary levels. As Program Director at the Center for Anthroposophy, she leads mentor training and the Waldorf Leadership Development Program. Karen fosters collaboration and growth in Waldorf education. Her dedication to professional development inspires educators and communities toward compassionate, dynamic learning.

**Dr. Marc Bekoff** is a renowned ethologist, biologist, and author, celebrated for pioneering research into animal play and its evolutionary significance. As Professor Emeritus of Ecology and Evolutionary Biology at the University of Colorado Boulder, Bekoff's career spans decades of investigation into animal minds, emotions, and behaviors, with animal play central to his scientific contributions. His landmark work, including co-editing *Animal Play: Evolutionary, Comparative, and Ecological Perspectives*, helped transform understanding of play from a pastime into a behavioral adaptation with neurological, social, and evolutionary functions. Outside research, Bekoff advocates for animal welfare and ethical treatment, working with Jane Goodall and compassionate conservation organizations. He's published more than 1000 essays and over 30 books, which reach both scientific and popular audiences, exploring cognition, emotion, and moral intelligence. Bekoff's dedication to animal play has reshaped how scientists, educators, and the public appreciate the joy and necessity of play among species.

**Dr. Jaak Panksepp** (1943–2017) was a pioneering neuroscientist best known for founding the field of affective neuroscience and for his groundbreaking research on animal play. Panksepp demonstrated that play is not merely frivolous behavior but a fundamental, evolutionarily conserved process crucial for social bonding, learning, and emotional health.



Panksepp's innovative experiments with juvenile rats revealed distinct “chirping” vocalization (ultrasonic laughter) that occur during rough-and-tumble play (and tickling by humans), providing evidence of joy and positive emotions in nonhuman animals. By highlighting play as a primary emotional system in the mammalian brain, Panksepp advanced understanding of the biological roots of social behavior and the importance of play across species, influencing psychology, neuroscience, and animal welfare research.

## Participant Biographies

**Brenda Peterson** is the author of over 23 books often centered on the relationship between humans and the natural world. She's written extensively about marine mammals, wolves, and wildlife conservation. Her memoir, "I Want to Be Left Behind," selected as a "Top Ten Best Non-Fiction" book by the Christian Science Monitor and an Indie Next "Great Read," by Independent Booksellers. Her most recent non-fiction books are *Wild Chorus: Finding Harmony with Whales, Wolves, and Other Animals* and *Wolf Nation: The Life, Death, and Return of Wild American Wolves*, chosen as a "Best Conservation Book of the Year" by Forbes magazine. Her children's books include among others; *Wild Orca* and *Lobos*.

**Lourdes A. Rodríguez**, M.S., is Manager of Childcare and Family Resources at the University of Arizona, where she oversees flagship childcare and family support programs. She has over 40 years of experience in early childhood education, previously serving as a Childcare Support Specialist at Easter Seals Blake Foundation. Active in professional associations, she mentors staff and leads seminars to support families, enhancing well-being for families across Arizona.

**Drs. Horst Dieter Steklis** and **Netzin Steklis** are University of Arizona researchers and eminent primatologists whose collaborative work centers on the behavior and cognition of mountain gorillas. Together, they investigate the evolution and adaptive significance of play, emotional awareness, and social bonds in gorillas, using field research in Rwanda to explore how play reflects cognitive and emotional development in these complex primates. Their studies reveal the importance of play in forming social relationships and highlight parallels with human emotional and psychological development. The Steklises have contributed to conservation through leadership roles in the Dian Fossey Gorilla Fund. Their work advances the understanding of gorilla behavior and enriches human-animal connection research.



photo by



# Resources

## Organizations

[The National Institute for Play](#)

[The Association for the Study of Play \(TASP\)](#)

## Articles

ChildCare.gov

["Supporting Children's Learning Through Play"](#)

Psychology Today

["Understanding Why Play Is So Important for Children"](#)

Scientific America

["Unstructured Play Is Critical to Child Development"](#)

Child Mind Institute

["How Young Children's Play Promotes Healthy Development"](#)

India Times

["60 minutes of play beats hours of screen time: New family ritual for parents"](#)

Current Directions in Psychological Science

["Rough-and-Tumble Play and the Development of the Social Brain"](#)

Greater Good Magazine

["Games Animals Play"](#)

Animal Behavior Corner

["Animal Play Behavior: Why It Matters and What We Can Learn"](#)

Animal Welfare Institute

["Let's Get Serious About Animal Play"](#)

Science Direct

["Animal play and evolution: Seven timely research issues about enigmatic phenomena"](#)

### **Psychology Today**

***Animal Behavior, a blog by ethologist Dr. Marc Bekoff***

[Dogs at Play: How and Why Bowing Came to Mean "Let's Play"](#)

[When Cats Play, They Mirror One Another's Feline Faces](#)

[Animal Play Is Fun, Fair, Chaotic, and Serious Business](#)

[Dogs Engage in Playful Teasing to Play Fair and Have Fun](#)

[Play Bows, Prey Bows, and Littermate Syndrome in Dogs](#)

[How to Tell if Cats Are Playing or Fighting](#)

[When Dogs Play, People Relax, and Social Barriers Break Down](#)

[What Animals Say to Each Other When They Play](#)

[Dogs at Play: Feeling Safe, Having Fun, and Playing Fair](#)

[When Dogs Play, They Follow the Golden Rules of Fairness](#)



# Books

## Children's Play

- Garvey, Catherine. *Play*. Cambridge, MA: Harvard University Press, 1977.
- Piaget, Jean. *Play, Dreams and Imitation in Childhood*. Translated by C. Gattegno and F. M. Hodgson. London: Routledge & Kegan Paul, 1951.
- Vygotsky, Lev S. *Mind in Society: The Development of Higher Psychological Processes*. Cambridge, MA: Harvard University Press, 1978.
- Smith, Peter K., and Jaipaul L. Roopnarine, eds. *The Cambridge Handbook of Play: Developmental and Disciplinary Perspectives*. Cambridge: Cambridge University Press, 2018.
- Pellegrini, Anthony D. *The Role of Play in Human Development*. New York: Oxford University Press, 2009.
- Singer, Dorothy G., Roberta Michnick Golinkoff, and Kathy Hirsh-Pasek, eds. *Play = Learning: How Play Motivates and Enhances Children's Cognitive and Social-Emotional Growth*. New York: Oxford University Press, 2006.
- Johnson, James E., James F. Christie, and Francis Wardle. *Play and Child Development*. 4th ed. Upper Saddle River, NJ: Pearson, 2014.
- Göncü, Artin, and Suzanne Gaskins, eds. *Play and Development: Evolutionary, Sociocultural, and Functional Perspectives*. Mahwah, NJ: Erlbaum, 2007.
- Gray, Peter. *Free to Learn*. New York: Basic Books, 2013.
- Brown, Stuart, and Christopher Vaughan. *Play: How It Shapes the Brain, Opens the Imagination, and Invigorates the Soul*. New York: Avery, 2009.

## Animal Play

- Burghardt, Gordon M. *The Genesis of Animal Play: Testing the Limits*. Cambridge, MA: MIT Press, 2005.
- Bekoff, Marc, and John A. Byers, eds. *Animal Play: Evolutionary, Comparative, and Ecological Perspectives*. Cambridge: Cambridge University Press, 1998.
- Fagen, Robert. *Animal Play Behavior*. New York: Oxford University Press, 1981.
- Pellis, Sergio M., and Vivien C. Pellis. *The Playful Brain: Venturing to the Limits of Neuroscience*. Oxford: Oneworld, 2009.
- Panksepp, Jaak. *Affective Neuroscience: The Foundations of Human and Animal Emotions*. New York: Oxford University Press, 1998.
- Panksepp, Jaak, and Lucy Biven. *The Archaeology of Mind: Neuroevolutionary Origins of Human Emotions*. New York: W. W. Norton, 2012.
- Bateson, Patrick, and Paul Martin. *Play, Playfulness, Creativity and Innovation*. Cambridge: Cambridge University Press, 2013.
- Balcombe, Jonathan. *Pleasurable Kingdom: Animals and the Nature of Feeling Good*. New York: Palgrave Macmillan, 2006.
- Martin, Paul, and Patrick Bateson. *Measuring Behaviour: An Introductory Guide*. 3rd ed. Cambridge: Cambridge University Press, 2007.
- Smith, Peter K. *Play in Animals and Humans*. Oxford: Basil Blackwell, 1984.

*Play is the highest form of research.*

- Albert Einstein