

Reproductive biology

In what direction is the field of reproductive biology moving? Do funding priorities match hot research areas? In this special focus, we try to find out.

In 2002, *Nature Medicine* and *Nature Cell Biology* published a joint supplement highlighting recent advances in the field of fertility research. Six years later, and coinciding with the thirtieth birthday of Louise Brown—the World's first test-tube baby—we thought it was time to revisit this topic as part of this issue of *Nature Medicine*.

Similar to our recent focuses on tuberculosis (March 2007), Alzheimer's disease (July 2006) and the metabolic syndrome (January 2006), we have tried to move away from simply presenting a collection of reviews and perspectives on the topic. We do present a single, broad review that aims to provide an update on what has happened in the field since our 2002 supplement, but the focus of this collection is different—we attempted to assess the direction in which the field is moving by identifying the papers that have been most influential for the discipline over the past three years, hoping to identify trends that guide research in the area of reproductive biology and medicine.

We polled top experts on their picks of key recent papers and, in parallel, looked for citation numbers in the *Scopus* database. Our hope was to obtain both a subjective and a quantitative indication of the papers that have stimulated the community's thinking over the past few years. Interestingly, although there were a few references that appeared among both the experts' picks and the highly cited papers, there were quite a few papers that did not. In addition, and by contrast to some of our previous attempts at crystal-ball gazing, there was no clear paper that stood out from the rest among the experts' picks.

These two observations might indicate a lack of consensus as to where the field should move, as well as the need for new breakthroughs that shake up the field and point to new research avenues that ought to be explored. Or perhaps it's simply that the field is so broad that any attempt at finding a consensus is doomed to fail. Regardless, the papers that came out of our research do provide some interesting insights into what makes the minds of reproduction researchers tick.

To complement these data, we invited different researchers to comment on the current state of funding for reproductive

research in each of their respective countries. Although there is wide variability in their responses, there seems to be little relation between the areas that are being most actively funded and those in which the most exciting results (judging from the top papers) are emerging. It would be somewhat vain to think that the disparity we identified will catch the attention of decision makers and lead them to address it, but there's no harm in hoping.

Speaking of catching attention, reproductive research is always making headlines. We therefore included a news section that highlights a series of fascinating topics, some of which resonate with a couple of the key advances in the field. Among the stories we have included, you will find reports on ways to preserve fertility for female cancer survivors, on the role of autoimmunity in reproductive disorders, on the genetics of infertility, on the effect of obesity during pregnancy, on fetal surgery and on new ways to boost the success of assisted reproductive techniques.

Finally, a remarkable statistic jumped out at us as we prepared this focus. In 2003, as many as 4% and 2% of children in Scandinavia and France, respectively, were born by intracytoplasmic sperm injection—a form of *in vitro* fertilization that involves the direct injection of sperm into an egg—and it is expected that such numbers will only continue to grow globally. But, as mentioned in one of our news stories, this procedure is potentially fraught with negative long-term health consequences for the resulting child. Despite these consequences, would it be reasonable to deny a child to a wanting couple? We can only hope that, as the etiology of idiopathic infertility is better understood, our reliance on these techniques will diminish or their safety will be improved.

We hope that the articles in this collection will provoke discussion, and we encourage our readers to share their opinions with us. We sincerely appreciate the financial support of the Burroughs Wellcome Fund and the March of Dimes in producing this focus. As always, *Nature Medicine* takes full editorial responsibility for the content of these pages.