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# LETTER FROM THE PRESIDENT AND CEO
“Enthusiasm is the mother of effort, and without it nothing great was ever achieved.”

Ralph Waldo Emerson

Dear friends and supporters:

As a neurologist and public health specialist, most recently as Deputy Director of the Army’s Traumatic Brain Injury Program, I have been frustrated and dismayed with the slow progress in developing effective therapies to treat patients suffering from severe neurological illnesses. I always wished I could offer something more hopeful to patients. My own father has suffered from severe neurological pain and I have felt helpless not being able to offer him adequate alleviation. My feelings of helplessness have been heightened by my decade working at the Food and Drug Administration, during which time I have seen promising new therapies for a variety of illnesses come through the pipeline again and again, only for them to ultimately fail in human trials. In fact, most diseases have little or no treatment available.

What is increasingly coming to light is that animal testing, while not the only cause, is a significant contributor to this high failure rate because it does not reliably represent human biology. And in the meantime, millions of animals each year are used in experiments for often dubious results. We need a better way. Thus, when I first learned in early 2019 about an initiative to launch a new organization to help drive biomedical science forward, I immediately jumped at this opportunity.

In February 2019, a team of visionaries, scientists, and policy, non-profit and business leaders convened at a workshop at Harvard Law School to ask how can we help create a momentous shift in medical research in a way that betters human health and that replaces ineffective experiments on animals. After three days of brainstorming and strategic discussions, the Center for Contemporary Sciences (CCS) emerged. I have been integrally involved with the development of CCS from the early days of the workshop to CCS’s official launch in May 2020.
CCS is unlike any other organization in the U.S. Our focus is on developing partnerships with diverse stakeholders to encourage open discussions and create solutions. We aim to transform the biomedical sciences by exploring new approaches, facilitating funding to promising new techniques, and engaging and collaborating with partners across multiple disciplines. We are currently a small team, but we intend to build and expand our expertise and resources to have the greatest impact possible. We are flexible, discerning, creative, and ambitious. Most of all, we are open to ideas and to testing new, potentially high-impact, strategies. Much as scientists test and refine hypotheses, we will continue to refine our strategies and/or develop new ones as we gather data.

We are just getting started. Over the next few years, we will catalyze a strategic, worldwide movement away from unreliable animal testing to more effective testing methods that are based on human biology, like organs-on-a-chip, organoids, and 3-D cell cultures.

HOPE FOR THE FUTURE: We strive to build a strong reputation in the biomedical field with all strategic partners to lead, expand and sustain this movement. Our end goal is to help create a biomedical research paradigm that delivers safe and effective therapies faster and more efficiently. We can deliver true hope to patients suffering from currently untreatable diseases, and to their families. We can heal ourselves without harming animals and do so more quickly and effectively.

The current pandemic, environmental threats, and widespread civil unrest emblematize the need to rethink old conventions and systems and create truly original and daring solutions across a wide range of issues, including the health sciences. This is the time to ignite a movement in the biomedical sciences that captures the best that science has to offer, and in the kindest way possible.

I feel immensely privileged to help lead this movement and to share with you our plans for the organization. As you read more about our plans, I hope you will imagine yourself as a CCS partner and help CCS bring a transformation in human health.

Aysha Akhtar, M.D., M.P.H.

EXECUTIVE SUMMARY
The Center for Contemporary Sciences (CCS) was launched in May 2020. It is a scientific organization and bridge builder, advocating for and facilitating a paradigm shift toward biomedical research methods that are based on human biology.

There are two main drivers for this shift: first, to truly advance human health, we need more predictive and biologically relevant scientific tools for understanding human diseases and developing treatments and cures more efficiently. Greater and faster adoption and use of human-specific research methods will enable these goals to be attained faster and with less capital, than traditional animal-based methods. These technologies (such as advanced human tissue and organ cultures, bioprinting, artificial intelligence for analysis of genomic and transcriptomic data, and organ- and body-on-a-chip methods) continue to improve and become even more human relevant. CCS will accelerate a comprehensive shift across the biomedical research fields by increasing knowledge about these technologies, increasing funding toward them, and improving adoption of these tools.

The second main driver is the opportunity and responsibility to reduce the use of animals in ineffective experimentation. By catalyzing the development and use of human-specific testing methods, CCS will help replace the use of animals in research and testing.

There is much to do to achieve this accelerated paradigm shift, but we have prioritised several strategies and programs.

**Short-term Objectives:**

1: Establishing CCS as a thought leader in human-specific research methods.

We will be a one-stop shop for information and guidance, collating papers and articles, compiling stakeholder databases, and publishing our own work, both in scientific journals and in the general media, reviewing and analyzing the field. All of this information will be available on our website. We will build our scientific team of experts to achieve this, and to be points of contact for consultation and advice.
2. Advancing research, strategic partner participation, and knowledge sharing of human-based research methods.

We will develop and conduct workshops involving diverse partners to improve awareness and investigate how human-based methods can be used to their full potential to answer major research questions. We will produce roadmaps that will clearly articulate steps for greater use of these methods with commitments for action from diverse partners to achieve measurable progress.

3: Collaborating with medical charities, corporations, and investors to increase funding and investment in human-specific research methods.

We will establish dialogue with medical research charities and patient advocacy groups to highlight the benefits of shifting their research focus to human-specific methods, advise how this can be achieved, and to encourage them to act. We will also forge relationships and dialogue with governmental agencies and other funders to achieve the same goals. We will create an ecosystem for seed through series C funding and investment opportunities.

4: Fostering the next generation of innovators and scientists in human-specific research methods.

We will work with academic institutions to ensure that students in the medical and life sciences are sufficiently educated about human-based research, and to encourage their participation in this field in their careers. We will implement targeted efforts to improve diversity of underrepresented groups in the biomedical sciences and increase their leadership in developing human-specific research methods.

5: Creating an inspiring and financially strong workplace.

We will ensure we are as strong as possible to deliver and achieve our goals. We will build a knowledgeable, experienced, motivated, diverse, and happy team, and seek every opportunity to raise funds from many sources to strengthen our financial standing and implement the programs we envision.

Intermediate and Long-Term Goals:
Goal 1: Create an ecosystem of better and diverse options for innovative human-specific research methods.

We will spur further innovation by facilitating participation by and communication across partners, including innovators, funders and end users. We will continue our workshops and establish conferences to increase knowledge sharing and collaboration. We will continue to expand our outreach to funders of biomedical research and establish CCS-directed funding programs (including challenge grants and prize competitions). We will build a business case for the use of human-specific methods.

Goal 2: Create increased desire for and recognition of need for human-specific research methods.

Greater knowledge of human-specific methods is key to their greater adoption and use in place of animals. We will increase our programs around knowledge sharing, attracting new scientists to the field, and garnering media attention to achieve this.

Goal 3: Create changed behaviors and demonstrable urgency to replace animal testing with improved methods.

Building on Goal 2, we will “level the playing field” by working with policy makers and regulators to increase funding for human-based methods, prioritize their use, and expedite and improve their validation process.

With the support of our philanthropic donors, we are committed to making CCS among the most cost-effective and successful nonprofit organizations in the world. We will generate and realize momentous changes in medical research, so that all people living with diseases have real hope and will see better therapies developed quicker and without harming animals.

WHO WE ARE
Launched in May 2020, CCS operates as a scientific organization and bridge builder for innovative medical research methods that are based on human biology. A nonprofit organization, CCS is powered by philanthropy: our progress and impacts are made possible thanks to gifts and grants from our family of supporters.

“I’m excited about the concept of a Center for Contemporary Sciences that can serve as a catalyst to accelerate translation and adoption of promising new test methods by industry, researchers, and government.”

Pamela Spencer, Ph.D., Senior Toxicologist and Vice President Regulatory, Product Stewardship & Quality, ANGUS Chemical Company.

“I’ve been involved with many initiatives and organizations seeking to change animal-based approaches to research and toxicity testing, but Center for Contemporary Sciences is promoting an entirely new concept that I think could be the most impactful to date.”

Warren Casey, Ph.D, DABT. Chief, Biomolecular Screening Branch, Division of the National Toxicology Program, National Institute of Environmental Health Sciences.
OUR MISSION

To pioneer a paradigm shift towards innovative, evidence-based research methods by bringing together scientists, policy makers, investors, and entrepreneurs to transform the biomedical sciences. We champion technologies that are better for humans and that replace animal testing.

OUR VISION

Saving and improving lives by catalyzing the world’s transition to human-specific medical research.

OUR VALUES

We believe that empathy, respect, humility, and optimism push us all forward.

We empower each other to hone our respective skills and to do great work in advancing human health.

Most of all, we are nerds, and we are dreamers.

We believe in the awesome possibilities of science.

THE CHALLENGES WE ADDRESS
Human Health

As far back as 2000, the Institute of Medicine of the National Academy of Sciences was so concerned about the failure to translate “scientific discoveries ... into tangible human benefit” that it convened a Clinical Research Roundtable. The roundtable concluded that there was a “disconnection between the promises of basic science and the delivery of better health.”

This disconnection has critical implications for human health. Currently, more than nine in ten drugs tested successfully in animals fail in human trials. Animal testing is too often unreliable in predicting human biology and therapeutic outcomes. While not the only cause of this high failure rate in drug development, increasing evidence published in peer-reviewed scientific journals highlights the poor translation of animal testing to human outcomes as a significant contributor.

“The use of animal models for therapeutic development and target validation is time consuming, costly, and may not accurately predict efficacy in humans.”

Francis S. Collins, Director, National Institutes of Health.

In addition to the costly and time-consuming failure rate in drug development, humans may be harmed because of misleading animal testing results. Imprecise results from animal experiments may result in clinical trials of biologically flawed or even harmful substances, thereby exposing patients to unnecessary risk and wasting scarce research resources. It has been repeatedly noted that animal toxicity studies are poor predictors of toxic effects in humans. An additional source of human suffering is the opportunity cost of abandoning promising drugs because of misleading animal tests.

Despite the increasing evidence of the unreliability of animal testing, the biomedical industry remains largely wedded to using animals for medical research and testing in part because there are few validated alternatives that are widely accepted, particularly in drug development. Additionally, governmental funding of animal experimentation remains at a steady high rate. In comparison, funding in the development of human-based technologies generally falls far short of investment in animal experimentation. This funding gap results in maintenance of the status quo.

To overcome the limitations of animal testing, and to advance medical research and drug development, CCS advocates for the biomedical sciences to start and end
with human biology. We will foster an environment that spurs innovation and the
development of far more effective research tools that are human-specific.

“Approximately 30% of drugs have failed in human clinical trials due to adverse
reactions despite promising pre-clinical studies, and another 60% fail due to lack of
efficacy. One of the major causes in the high attrition rate is the poor
predictive value of current preclinical models used in drug development... Clearly
there is a need for better predictive tools for risk assessment in drug discovery
and development.”

Dr. Danilo Tagle, Associate Director for Special Initiatives at the National Center
for Advancing Translational Sciences, National Institutes of Health.

Animal Protection

Over the past 20 years, an estimated 2 billion plus animals in the U.S. alone have
been used in experimentation or to supply the biomedical industry. Annually, more
than 200 million animals are used worldwide. The Animal Welfare Act (AWA) is the
only U.S. federal statute that regulates the treatment of animals used in
experiments. However, it excludes >95% of animals used. Additionally, even for the
species which are covered, the AWA provides no limits on the type of
experimentation or on the degree of suffering an animal may experience. By
advocating for more effective human-based approaches to biomedical research,
not only will humans benefit, but so too will animals.

OUR PRIORITIES: YEARS 1 THROUGH 3
CCS’s end goal is to replace all ineffectual animal testing with more reliable human-specific approaches.

“To reach this goal, CCS staff and Board members have worked closely over three months developing CCS’s long-term priorities and defining its implementation plan for years one through three. We have devised internal metrics by which to track progress. Since we are just getting started, these metrics will evolve over time as we gather data.

Our criteria for choosing our strategies for the short-to-intermediate period were based on the following:

1. Feasibility based on cost, staff expertise, time, and other available resources.
2. Opportunities, unfulfilled gaps.
4. Possibility of collaboration with diverse partners.
5. Resonance with the public/donors and with the scientific community.
6. Creation of a “snowball effect” (i.e. likelihood of generating increased and future success with each successful endeavor).
7. Dependence on external factors/existing barriers for success (i.e. regulatory approval).
8. Establishes CCS leadership and visibility.
9. Builds a foundation for our long-term goals.

Based on these criteria, CCS has prioritized the following objectives for Years 1 through 3:

Objective 1: Establishing CCS as a thought leader in human-specific research methods.

All CCS’s key activities and objectives hinge upon CCS being established and well-known as a leader in the field of biomedical research and new and existing human-specific research methods. Currently there is no one-stop source for the latest information on innovative human-specific technologies that can replace animal
tests and be more effective for medical research needs. This means that anyone interested in this field must dig through volumes of literature and conduct in-depth internet and library searches. CCS will fill this niche, which will help establish us as experts in this field.

Therefore, CCS will create white papers, peer-reviewed journal articles, and industry-level evaluations of technologies and research projects required to support biomedical research needs across a wide range of disease categories. These will be published as open-source resources on our website, heavily publicized, and continually updated. Additionally, CCS is creating stakeholder databases that will be freely available on our website. Currently there is no such stakeholder database that exists and is freely available in the U.S. The databases will provide a comprehensive overview of a) Companies (new and established); (b) Academic centers; and (c) Governmental centers, that are developing human-specific research methods.

CCS will also perform thorough literature reviews on an ongoing basis to remain up to date on all publications related to human-relevant research methods and their applications. CCS will work with our Public Relations (PR) and digital media consultants to disseminate this information through relevant channels (webinars, blogs, interviews, etc.) to generate excitement and buy-in from the science community.

CCS has created an advisory council comprised of industry, scientific, academic and policy experts to evaluate novel opportunities for research and provide guidance on CCS’s strategies and goals. However, to be successful, CCS will need to build its internal scientific team with expertise in a range of biomedical fields.

Finally, CCS will be working with PR specialists to build a communication plan to drive media interest to CCS’s work. CCS implemented a media launch campaign in the early fall of 2020. For strategic reasons, the launch began by seeking coverage by “low-hanging fruit” media sources such as animal protection and “green” outlets. These initial placements will increase the opportunities for coverage by more traditional media sources over time. Additionally, CCS will seek opportunities for submission of opinion pieces, articles, and interviews in and by relevant media outlets.

These efforts will allow both CCS and the rest of the world to fully understand the state of the science regarding innovative human-based research methods and direct further research and development accordingly. This work ensures that more scientists get involved in these fields and helps build momentum. CCS will be a portal for partners to connect with one another and engage in ground-breaking work that will improve the medical sciences.
**Objective 1: Establishing CCS as a Thought Leader in Human-Specific Research Methods**

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<tr>
<th>KEY ACTIVITIES</th>
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<tr>
<td>- Build stakeholder databases with ongoing updates.</td>
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<td>- Build publication library with CCS white papers and other curated highly relevant research articles.</td>
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<tr>
<td>- Submit articles for publication in peer-reviewed biomedical journals.</td>
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<td>- Participate in and present at professional conferences/workshops.</td>
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<tr>
<td>- PR campaign launched in Fall 2020.</td>
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<tr>
<td>- Continue ongoing media pitches for interviews and submission of articles and opinion pieces in relevant media outlets.</td>
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<tr>
<td>- Build scientific team.</td>
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**Objective 2: Advancing research, strategic partner participation, and knowledge sharing of human-specific research methods.**

Because many human-specific technologies have been developed only relatively recently, there is limited awareness and understanding of how these technologies can be currently used and of their future potential applications. Most biomedical scientists currently using animals are not aware of how these new tools can be used in their own line of research and how they can replace animal experimentation. Thus, many human-specific testing tools are either not being used at all, or not being used to their fullest potential.

To stimulate knowledge sharing, further development in, and use of human-specific research methods, CCS will develop workshops to address how these new technologies can be used to forward scientific knowledge and therapeutic discovery in specific biomedical fields. For example, one such workshop may address how these technologies can be currently used in neuroscience research to address Parkinson’s disease and dementia. These workshops can be implemented relatively easily, hosted virtually, and will include experts in the biomedical field of interest. The primary result of each workshop will be a roadmap on how human-specific technologies can be applied. The roadmaps will, in turn, be integral to CCS’s outreach to corporate, academic and charitable funders and conductors of biomedical research with the goal of getting support and actionable plans from these institutions to fund these technologies and/or use them in their research efforts.
Objective 2: Advancing research, strategic partner participation, and knowledge sharing of human-specific research methods

**Key Activities:**
- Research biomedical fields where new technologies can best be applied and have the greatest opportunity to advance those fields.
- Define specific workshops and invite expert participation.
- Develop roadmaps as outputs from each workshop.
- Publish roadmaps as white papers on CCS website or in peer-review biomedical journals.
- Gain institutional consensus with actionable plans.

Objective 3: Collaborating with medical charities, corporations, and investors to increase funding and investment in human-specific research methods.

Each year, medical charities provide millions of dollars of funding to biomedical research. Examples of such charities are the Alzheimer’s Association, the Michael J. Fox Foundation for Parkinson’s Research, and the Foundation for AIDS Research.

To date, there has been little effort by any existing organization to reach out to medical charities and corporations (which fund biomedical research as part of their charitable giving) to discuss opportunities to fund human-specific medical research in place of animal testing. We believe this is an opportunity that should be pursued in part because many disease-focused charities have witnessed high-failure rates in drug and vaccine development in their disease category of interest. Additionally, charities which focus on rare, neglected and orphan diseases (conditions that affect fewer than 200,000 nationwide) have often seen little scientific advancement in knowledge. For example, immense resources and decades of time have been devoted to creating non-human primate (including chimpanzee) models of HIV. Yet all of about 90 HIV vaccines that succeeded in animals failed in human trials. As stated by Christopher Austin, MD, Director of the National Center for Advancing Translational Sciences “ ... most diseases have little or no treatment approved by the Food and Drug Administration (FDA), and the process of developing new therapeutics is fraught with uncertainty and failure. For every 10,000 promising compounds that enter the development pipeline, only a few currently make it into the nation’s medicine chest.”

We believe there is an immense opportunity to work with medical charities, especially those that have seen little to no successful treatment developed in their disease category of interest, to divert more funding to human-specific testing.
methods that offer much greater promise in advancing the field. Collaboration with select patient advocacy groups will assist with this process. This outreach will align with the roadmaps discussed under Objective 2. Additionally, CCS will begin building relationships with governmental agencies which fund biomedical research. However, based on prior experience of CCS staff members, governmental agencies have often been significant barriers to change in this area. Thus, CCS will build its initial success by working with charities and corporations which are more likely to be open to new methods, and then expand its proven approaches to governmental agencies.

CCS is currently forming a partnership with the Glass Wall Syndicate, which is a large group of venture capitalists, individual investors, foundations, and trusts to establish a collaborative venue to bring together investors interested in human-specific testing methods with the companies creating these methods.

| OBJECTIVE 3: COLLABORATING WITH MEDICAL CHARITIES, CORPORATIONS, AND INVESTORS TO INCREASE FUNDING AND INVESTMENT IN HUMAN–SPECIFIC RESEARCH METHODS. |
| KEY ACTIVITIES |
| • Develop roadmaps as outputs from each workshop. |
| • Establish partnerships with patient advocacy groups. |
| • Research relevant medical charities and corporations. |
| • Establish meetings with target charities/corporations. |
| • Build relationships with governmental funders/agencies. |

Objective 4: Fostering the next generation of innovators and scientists in human–specific research methods.

Early career scientists in the biomedical fields will likely be more open to using and developing new technologies, compared with established scientists who have spent years or decades using animal-based approaches. Anecdotally, members at CCS have heard from many Ph.D. students, particularly women and minorities, who want to pursue their careers in the biomedical sciences but without using animals. We believe this desire to avoid using animals will be a growing trend among the next generations of scientists, reflecting national surveys, such as the Gallup poll, which show decreasing public approval of animal testing, especially among the younger generations. Yet academic programs that enable students to complete their biomedical degrees without using animals are rare. Additionally, according to a 2018
Gallup poll, Black and Hispanic workers continue to be underrepresented in the STEM workforce. Blacks make up 11% of the U.S. workforce overall but represent 9% of STEM workers, while Hispanics comprise 16% of the U.S. workforce but only 7% of all STEM workers. Although women have received greater gender parity in the biomedical sciences, they are still underrepresented in leadership positions in this field. Students wishing to pursue careers in the biomedical sciences without using animals, however, have often faced undue pressure by existing university and scientific infrastructures to experiment on animals. The result is that many bright, non-conforming, diverse, and creative students have abandoned the biomedical science fields altogether.

CCS will enact an academic outreach program in which we work with academic institutions to create educational tracks for biomedical students interested in human-specific technologies, including targeted efforts to increase diversity and leadership tracks for underrepresented groups. To begin this process, CCS has implemented a pilot study to assess current student interest in these technologies and to track how this interest changes over time with CCS’s effort. To fully develop this effort, CCS will need to build an Academic Affairs program and hire staff, including a Director of Academic Affairs to liaison with universities and colleges. CCS staff will help create curriculum, and deliver presentations in classes, departmental symposia, and student forums with the goal of markedly increasing the number and caliber of biomedical scientists and future entrepreneurs working on human-specific technologies. CCS will also reach out to current innovative companies in this field to establish internship opportunities for students to gain hands-on experience using these technologies.

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<tr>
<th>OBJECTIVE 4: FOSTERING THE NEXT GENERATION OF INNOVATORS AND SCIENTISTS IN HUMAN–SPECIFIC RESEARCH METHODS</th>
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**KEY ACTIVITIES**

- Survey of student interest in new technologies.
- Build Academic Affairs staff and program.
- Establish partnerships with universities.
- Develop curriculum and deliver presentations.
- Establish internship opportunities for student scientists.

Objective 5: Creating an inspiring and financially strong workplace.
CCS will be the kind of workplace that attracts the strongest and most diverse candidates.

Transparency, open-dialogue, mutual respect and a sense of autonomy and purpose are key to high performance and job satisfaction. We actively encourage feedback and creative thinking. Although staff members currently work remotely (in large part due to the COVID-19 pandemic), to foster a sense of belonging, we meet virtually on a regular basis to learn in-depth about each other’s projects, discuss how we can assist one another and improve strategically and organizationally, and to brainstorm on new ideas. Key to employee satisfaction is a sense of progress and success in one’s work. Therefore, we will align our organizational structure and projects to support our strategic plan and we will devise metrics to track success in our efforts.

Additionally, although we believe it is vital to work hard to succeed in our goals, it is equally necessary to foster healthy work–life balances in our lives. This balance enables staff members to continually feel motivated, energized, and empowered in their work.

CCS will strive to be as financially strong as possible to build our teams and programs to achieve maximum impact. We will seek every opportunity to raise funds, including through governmental and foundational grants, family foundations, planned legacy giving, corporate social responsibility, private donations, major gifts, and industry sponsorship of workshops and specific programs.

Finally, CCS will advocate for racial, ethnic and gender equity across all of its programs, activities and infrastructure, including, but not limited to: (a) actively seeking diversity in staff, and Board and Advisory Council members; (b) attracting and developing career and leadership opportunities for underrepresented groups in the biomedical sciences; (c) fostering a shared goal to promote equity with all our strategic partners; and (d) ensuring equity in research methods (for example, ensuring racial and ethnic group representation in human tissue biobanks), applications, and healthcare to reduce disparities.

**OBJECTIVE 5: CREATING AN INSPIRING AND FINANCIALLY STRONG WORKPLACE**
KEY ACTIVITIES

• Provide opportunities for professional growth, satisfaction, diversity, and inclusion.
• Align organizational structure to support implementation of strategic plan.
• Continually fine-tune key objectives and result metrics.
• Build a strong development plan and program.
• Expand funding pool to include major gifts, foundation funding, industry sponsorship, and governmental funding.
• Advocate for racial, ethnic and gender equity across all CCS programs, activities and infrastructure.
INTERMEDIATE AND LONG-TERM GOALS

“To reach the end goal of replacing all unreliable animal testing with improved human-based technologies, CCS has devised three crucial intermediate goals. Many of the key activities described below will support more than one of the intermediate goals. These longer-term goals build upon the programs and relationship building that CCS will implement in years one through three.”

Mario Andretti

Intermediate Goal 1: Create an ecosystem of better and diverse options for human-specific research methods.

Uptake of human-specific technologies will not fully occur until there is a wide range of diverse options that can be applied across the biomedical research field from basic research to toxicology testing to pharmaceutical development. CCS envisions its role in building collaboration with diverse partners to spur innovation across the biomedical research field. To attain this intermediate goal, CCS will continue its outreach programs with medical charities and corporations which fund biomedical research to prioritize funding of human-specific testing methods. However, CCS will also expand these programs to include governmental agencies which fund medical research (CCS will have already been building relationships with governmental funders by this time).

To increase knowledge about existing technologies, CCS will continue its workshops and establish conferences to attract diverse stakeholders. One potential sub-program, which will be pilot-tested, revolves around “Help-a-Thons.” The idea of these Help-a-Thons is to match scientists who have specific research needs with companies/centers creating new tools that may fit those needs. If successful, this program can introduce scientists who are planning to use animals to human-based tools that can be used instead. Another Help-a-Thon that will be tested is one that matches investors with entrepreneurs. These Help-a-Thons are modeled after an approach created by the

“If people are doubting how far you’ll go, go so far that you can’t hear them anymore.”

Michele Ruiz
Dutch government which states “Animal-free innovation becomes easier if you choose to do it together: with researchers, financiers, scientists, innovators, and policy makers. That is what happens during a help-a Thon.”

The stakeholder databases described earlier will also be a resource for investors looking for promising entrepreneurs and vice versa.

Additionally, CCS envisions directly funding research that has great potential for commercial application, and/or sponsoring Ph.D. scholarships to encourage early-career scientists in the fields of human-specific research methods. Prize competitions (or challenge grants) are another exciting way to spur innovation. High-profile competitions with strong financial awards have been shown in other areas such as ecological conservation to garner media attraction (which in turn creates a “snowball effect”), recruit new scientists into the field, and foster collaboration among research groups.

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<tr>
<th>GOAL 1: CREATE AN ECOSYSTEM OF BETTER AND DIVERSE OPTIONS FOR HUMAN–SPECIFIC RESEARCH METHODS</th>
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<tbody>
<tr>
<td>• Sub-goal: Improved communication and collaboration among partners.</td>
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<td>• Sub-goal: More funding opportunities toward these technologies.</td>
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<td>• Sub-goal: More companies/centers developing these technologies.</td>
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<table>
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<tr>
<th>KEY ACTIVITIES TO REACH THIS GOAL</th>
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<td>• Expand outreach to medical and other private charities which fund biomedical research.</td>
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<td>• Expand outreach to corporate funders of biomedical research.</td>
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<tr>
<td>• Expand outreach to governmental funders of biomedical research.</td>
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<td>• Establish Help-a-Thons matching research needs with technologies and entrepreneurs with investors.</td>
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<td>• Establish and expand workshops and conferences.</td>
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<td>• Establish and expand databases of promising companies/technologies as an investor resource.</td>
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<td>• Establish high profile prize competitions for scientists at all career levels.</td>
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<tr>
<td>• Establish CCS funding of research projects with commercial application and/or sponsorship of Ph.D student scholarships.</td>
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<th>WHAT SUCCESS WILL LOOK LIKE</th>
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<tr>
<td>• Increased charitable funding to human-specific testing methods.</td>
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<td>• Increased corporate funding to human-specific testing methods.</td>
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<td>• Increased governmental funding to human-specific testing methods.</td>
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<td>• Increased private investment in human-specific testing methods.</td>
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- Increased participation in CCS workshops and conferences.
- Increased participation in CCS Help-a-Thons.
- Increased use of human-specific testing methods by researchers.
- Prize competitions with high number of qualified participants and fully funded prize awards of high value.
- High pool of financial reserves to directly fund biomedical research and/or research scholarships and high number of qualified applicants.

**Intermediate Goal 2: Create increased desire for and recognition of need for human-specific research methods.**

For successful development and widespread use of human-specific research methods, there needs to be greater recognition among biomedical scientists about how these methods are needed, and how and why they can replace animal tests. To accomplish this goal, CCS will actively seek opportunities to promote the use of these testing methods in early stage research where there are no regulatory requirements to use animals, with the goal of creating broad confidence and experience in these methods. We believe this approach will ultimately create a ripple effect that will also change the current regulatory paradigm.

CCS will also increase its programs around knowledge sharing, boost media attention to these technologies, and facilitate opportunities for new scientists to develop and use these tools. CCS will focus on the different sectors within the biomedical community, such as the corporate, public funding, drug and chemical regulatory, and basic research sectors and tailor its outreach to each group, with the intent to fill gaps and create opportunities within each.

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<th>GOAL 2: CREATE INCREASED DESIRE FOR AND RECOGNITION OF NEED FOR HUMAN-SPECIFIC RESEARCH METHODS</th>
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<tbody>
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<td>• Sub-goal: More knowledge sharing between partners and opportunities within each sector.</td>
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<td>• Sub-goal: More media focus on these technologies.</td>
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<tr>
<td>• Sub-goal: More early-career and established scientists developing and/or using new technologies.</td>
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**KEY ACTIVITIES TO REACH THIS GOAL**

- Establish and expand workshops and conferences.
• Tailor efforts/messaging/outreach to specific biomedical research sectors.
• Continue to build publication library and resource databases.
• Expand research Help-a-Thons matching research needs with technologies and funding.
• Expand and refine media strategy and roadmap.
• Expand academic outreach.
• Establish high profile prize competitions for scientists at all career levels.

WHAT SUCCESS WILL LOOK LIKE
• Increased traffic to CCS’s website.
• Increased participation in CCS workshops and conferences.
• Increased participation in CCS Help-a-Thons.
• Increased gaps filled and increased opportunities for human-specific testing methods across the different sectors.
• Show-up consistently within media/become go-to experts for media.
• Prize competitions with high number of qualified participants and fully funded prize awards of high value.
• Increased career tracks and academic programs in new technologies.
• Increased number of early career scientists pursuing degrees/training in new technologies.

Intermediate Goal 3: Create changed behaviors and demonstrable urgency to replace animal testing with improved methods.

Goal 3 builds upon Goal 2 but includes a sense of urgency. Success will be evident by commitments from various stakeholders and partners to actionable plans to decrease the use and funding of animal testing and increasing funding toward human-specific methods. Additionally, policy changes that level the “playing field” for new technologies will be needed. Currently, governmental agencies largely prioritize the funding and use of animal testing, no matter how unproven and unreliable, over the development of human-specific tools. CCS will lobby policymakers to demand greater governmental funding of human-based tests. CCS will also work with regulatory agencies like the Food and Drug Administration to improve and speed its validation process for human-specific tools and to actively promote the use of these more effective tools over unreliable animal testing.

CCS intends to build a policy department to work with Congress and regulatory agencies to advocate for fair and efficient regulatory oversight of human-specific
testing methods, and to advocate for spending reforms to prioritize funding of human-based tools over animal testing.

GOAL 3: CREATE CHANGED BEHAVIORS AND DEMONSTRABLE URGENCY TO REPLACE ANIMAL TESTING WITH IMPROVED METHODS

- Sub-goal: Funding toward animal testing diverted to human-specific methods.
- Sub-goal: Increased support across wide range of partners.
- Sub-goal: Institutions committing with actionable plan to reduce animal testing and replace with new technologies.
- Sub-goal: Institutions actively decreasing the use of animals and increasing the use of human-specific methods.

KEY ACTIVITIES TO REACH THIS GOAL

- Pledge campaigns with medical and other private charities/corporations/governmental agencies/ & academic institutions which fund or conduct biomedical research.
- Policy advocacy.

WHAT SUCCESS WILL LOOK LIKE

- Increased number of academic institutions/corporations/medical charities/governmental agencies committing with actionable plan to decrease use of animals.
- Decreased number of animals used in biomedical research/increased uptake and use of new technologies.
- Changes in policy that level playing field/prioritize funding of human-specific research methods.

HOW YOU CAN HELP
As a nonprofit organization, CCS’s mission and vision are supported by philanthropy: all our planned programs and their expected impacts are made possible thanks to our family of supporters. Philanthropic gifts and grants are essential to our existence and enable CCS to operate sustainably from a position of financial strength and to plan for robust growth in the years to come.

Although we are only in our first year of operation, our goal is to secure $1.5 million in additional gifts and grants by the end of Year One. CCS team members work remotely, which enables us to recruit the finest talent, nationally and internationally, and minimizes our overhead expenses. Success in our first few years is especially dependent on our ability to build a team of talented, dedicated scientists with expertise across a range of biomedical fields.

CCS operates on a 12-month rolling budget; that is, we plan to spend in one year what we secured in gift and grant revenue the prior year. If we can reach our first-year goal, this will seed our program operations and growth in impact in 2021.

We actively seek philanthropic support to build and expand our planned departments and programs—as well as unrestricted funds which give us the flexibility to stay nimble and apply funds to the areas of greatest need and emerging high-impact opportunities.

CCS’s donors hail from all walks of life: ranging from individuals who support our mission to major grant-making foundations and corporations. Every gift makes a significant difference in our ability to transform medical research and we warmly invite you to join our diversified family of supporters.

To learn how you can help to propel medical science into its full potential, please contact CCS’s President and CEO, Dr. Aysha Akhtar (240-370-4671 or Aysha@ContemporarySciences.org), or Chief Development Officer, Torrey Shallcross Kraiss (404-216-4337 or Torrey@ContemporarySciences.org).

The entire CCS team is committed to making CCS among the most cost-effective nonprofit organizations in the world; we strive to ensure that every donated dollar is focused on maximum mission impact. CCS aspires to make a momentous change in medical research so that all people living with diseases have hope for their futures, so that we will see better and more therapies developed at a faster rate, and so that, ultimately, no animals are used in the process. With your support, we will grow, lead, and deliver this change.