# **Our Research Community**

CIFAR global network

403

Researchers\*

201

64

Advisors

33

Fellows

CIFAR Azrieli Global Scholars Canada CIFAR Al Chairs

141

Institutions

Countries

# Bringing the world's best minds together

59

Virtual program meetings and cross-programmatic events



# Extraordinary minds

96

Major international awards and honours received by our fellows, advisors, CIFAR Azrieli Global Scholars, and Canada CIFAR AI Chairs



# High-impact scholarship

254

Fellows, advisors, and CIFAR Azrieli Global Scholars (65%) contributed to the top 1% of most-cited papers worldwide from 2016–2020\*\*\*\*



Addressing the most important questions facing science and humanity

1,765

Publications influenced by CIFAR activities\*\*



451

Publications co-authored by two or more CIFAR researchers\*\*\*



91.2%

Percentage of researchers report that participation in CIFAR activities has positively informed or impacted their research (e.g., influence on their research directions, new ideas, etc.)

# CIFAR: A global meeting place for collaboration

87

Formal partnerships with governments, research organizations, industry, and foundations



121

Individuals convened outside academia (e.g., policymakers, clinical scientists, and industry leaders) with CIFAR's research community through 10 engagements focused on societal impact

### High-risk, high-reward ideas

44

Catalyst Funds awarded

\$1,966,344

Amount in Catalyst grants to support high-risk, high-reward projects by our fellows and scholars to accelerate discovery



- \* Includes active researchers in all CIFAR programs as of March 31, 2022. Note that 14 researchers hold dual appointments as a Canada CIFAR Al Chair, and as a CIFAR Fellow, or an Advisor, or a CIFAR Azrieli Global Scholar.
- \*\* Self-reported number of peer-reviewed journal articles, conference papers, books and book chapters, and publicly released working papers, position papers or policy reports influenced by participation in CIFAR programs. (Source: Program Member Annual Reports, 2022, n=226 researchers)
- \*\*\* Self-reported number of publications co-authored with other CIFAR researchers. (Source: Program Member Annual Reports, 2022, n=226 researchers)
- \*\*\*\* Percentage of CIFAR researchers contributing to the top 1% of most-cited papers at the world level from 2016-2020 using SciVal and Scopus. Excludes Solutions Networks because they are not expected to publish traditionally and 5 chairs appointment while the 2021-22 year was already in progress (Glen Berseth, Foutse Khomh, Dhanya Sridhar, Anna Huang, Bang Liu).

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#### APPENDIX D.

# **Selected Awards & Honours Received**

In 2021/2022, CIFAR Fellows, Advisors, CIFAR Azrieli Global Scholars, and Canada CIFAR Al Chairs received 96 major awards and honours.

### **AWARDS**

### 35 INNOVATORS UNDER 35 (MIT TECH REVIEW, USA)

### **David Rolnick**

McGill University and Mila Canada CIFAR Al Chair

### ACS AWARD IN PURE CHEMISTRY (AMERICAN CHEMICAL SOCIETY, USA)

### Gabriela Schlau-Cohen

Massachusetts Institute of Technology Bio-inspired Solar Energy

### ALEXANDER VON HUMBOLDT PROFESSORSHIP FOR ARTIFICIAL INTELLIGENCE (FEDERAL MINISTRY OF EDUCATION AND RESEARCH, GERMANY)

### **Angela Schoellig**

University of Toronto and Vector Institute Canada CIFAR AI Chair

### AI 2000 TOP 10 MOST INFLUENTIAL SCHOLARS – AAAI/IJCAI 2022 (AMINER, CHINA)

#### **Marc Bellemare**

McGill University, Google Brain and Mila Learning in Machines & Brains and Canada CIFAR Al Chair

### AI 2000 TOP 10 MOST INFLUENTIAL SCHOLARS — INFORMATION RETRIEVAL AND RECOMMENDATION 2022 (AMINER, CHINA)

#### Jian Tang

HEC Montréal and Mila Canada CIFAR AI Chair

### AI 2000 TOP 10 MOST INFLUENTIAL SCHOLARS — MACHINE LEARNING 2022 (AMINER, CHINA)

### Jimmy Ba

University of Toronto and Vector Institute Canada CIFAR AI Chair

### AI 2000 TOP 10 MOST INFLUENTIAL SCHOLARS — NATURAL LANGUAGE PROCESSING 2022 (AMINER, CHINA)

### Kyunghyun Cho

New York University Learning in Machines & Brains

### **Christopher Manning**

Stanford University Learning in Machines & Brains

### AI 2000 TOP 10 MOST INFLUENTIAL SCHOLARS — ROBOTICS 2022 (AMINER, CHINA)

#### Pieter Abbeel

University of California, Berkeley Learning in Machines & Brain

### AI 2000 TOP 10 MOST INFLUENTIAL SCHOLARS — SECURITY AND PRIVACY 2022 (AMINER, CHINA)

### Nicolas Papernot

University of Toronto and Vector Institute Canada CIFAR AI Chair

### ALFRED P. SLOAN RESEARCH FELLOW (ALFRED P. SLOAN FOUNDATION, USA)

### **David Duvenaud**

University of Toronto and Vector Institute Canada CIFAR AI Chair

### Peter McMahon

Cornell University
Quantum Information Science
and CIFAR Azrieli Global Scholar

### **Nicolas Papernot**

University of Toronto and Vector Institute Canada CIFAR AI Chair

### **David Yang**

Harvard University Innovation, Equity & the Future of Prosperity and CIFAR Azrieli Global Scholar

### APA DISTINGUISHED SCIENTIFIC CONTRIBUTIONS AWARD (AMERICAN PSYCHOLOGICAL ASSOCIATION, USA)

### Megan Gunnar

University of Minnesota Child & Brain Development

### BALSILLIE PRIZE FOR PUBLIC POLICY (WRITERS' TRUST OF CANADA, CANADA)

### **Dan Breznitz**

University of Toronto Innovation, Equity & the Future of Prosperity

### CAIAC LIFETIME ACHIEVEMENT AWARD (CANADIAN ARTIFICIAL INTELLIGENCE ASSOCIATION)

#### **Russell Greiner**

University of Alberta and Amii Canada CIFAR Al Chair

### CANADA RESEARCH CHAIR (GOVERNMENT OF CANADA)

### Matt Dobbs

McGill University
Gravity & the Extreme Universe

### Michael Kobor

University of British Columbia Child & Brain Development

### Guillaume Lajoie

Université de Montréal and Mila Canada CIFAR Al Chair

### Rebecca Shapiro

University of Guelph Fungal Kingdom: Threats & Opportunities and CIFAR Azrieli Global Scholar

### CANADA'S TOP 40 UNDER 40 (CALDWELL PARTNERS, CANADA)

### Meghan Azad

University of Manitoba Humans & the Microbiome

### CNRS SILVER MEDAL (CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE, FRANCE)

### Catherine Tallon-Baudry

École normale supérieure Brain, Mind & Consciousness

### COMPARATIVE COGNITION SOCIETY RESEARCH AWARD (COMPARATIVE COGNITION SOCIETY, USA)

#### **David Sherry**

Western University Brain, Mind & Consciousness

### DIRAC MEDAL (INTERNATIONAL CENTER FOR THEORETICAL PHYSICS, INDIA)

### **Frans Pretorius**

Princeton University
Gravity & the Extreme Universe

### DISTINGUISHED MYCOLOGIST AWARD (MYCOLOGICAL SOCIETY OF AMERICA, USA)

### Joseph Heitman

Duke University Fungal Kingdom: Threats & Opportunities

### EARLY CAREER AWARD IN ROBOTICS AND AUTOMATION (IEEE ROBOTICS AND AUTOMATION SOCIETY, USA)

### Chelsea Finn

Stanford University Learning in Machines & Brains

# EATCS DISTINGUISHED ACHIEVEMENTS AWARD (EUROPEAN ASSOCIATION FOR THEORETICAL COMPUTER SCIENCE)

### **Toniann Pitassi**

University of Toronto and Vector Institute Canada CIFAR AI Chair

### EMET PRIZE IN LIFE SCIENCES (AMN FOUNDATION FOR THE ADVANCEMENT OF SCIENCE, ART AND CULTURE, ISRAEL)

### Rafael Malach

Weizmann Institute of Science Brain, Mind & Consciousness

### FACULTY EARLY CAREER DEVELOPMENT (CAREER) AWARD (NATIONAL SCIENCE FOUNDATION, USA)

### Lillian Fritz-Laylin

University of Massachusetts, Amherst Fungal Kingdom: Threats & Opportunities

### Magdalena Osburn

Northwestern University
Earth 4D: Subsurface Science
& Exploration

### FRED KAVLI INNOVATIONS IN CHEMISTRY LECTURE (AMERICAN CHEMICAL SOCIETY)

#### Alán Aspuru-Guzik

University of Toronto and Vector Institute Bio-inspired Solar Energy and Canada CIFAR AI Chair

### GRAND PRIX SCIENTIFIQUE (LA FONDATION POUR L'AUDITION, FRANCE)

#### Robert Zatorre

McGill University
Brain, Mind & Consciousness

### GOOGLE CLOUD RESEARCH INNOVATOR AWARD (USA)

### Alona Fyshe

University of Alberta and Amii Learning in Machines & Brains and Canada CIFAR Al Chair

### Martha White

University of Alberta and Amii Canada CIFAR Al Chair

### GOOGLE RESEARCH SCHOLAR AWARD (USA)

### Jimmy Ba

University of Toronto and Vector Institute Canada CIFAR AI Chair

### Golnoosh Farnadi

HEC Montréal and Mila Canada CIFAR AI Chair

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## GRUBER COSMOLOGY PRIZE (GRUBER FOUNDATION AND INTERNATIONAL ASTRONOMICAL UNION)

Matias Zaldarriaga

Institute for Advanced Study
Gravity & the Extreme Universe

### HBP INNOVATION AWARD (HUMAN BRAIN PROJECT, EUROPEAN UNION)

Marcello Massimini

University of Milan Brain, Mind & Consciousness

### IJCAI AWARD FOR RESEARCH EXCELLENCE (INTERNATIONAL JOINT CONFERENCES ON ARTIFICIAL INTELLIGENCE ORGANIZATION)

**Richard Sutton** 

University of Alberta, DeepMind and Amii Learning in Machines & Brains and Canada CIFAR Al Chair

### JAPT SPECIAL AWARD (JAPAN ASSOCIATION FOR PETROLEUM TECHNOLOGY)

### Fumio Inagaki

Japan Agency for Marine-Earth Science and Technology (JAMSTEC) Earth 4D: Subsurface Science & Exploration

### KLAUS J. JACOBS RESEARCH PRIZE (JACOBS FOUNDATION, SWITZERLAND)

### **Charles Nelson**

Harvard University
Child & Brain Development

### LAGRANGE PRIZE IN CONTINUOUS OPTIMIZATION (MATHEMATICAL OPTIMIZATION SOCIETY AND SOCIETY FOR INDUSTRIAL AND APPLIED MATHEMATICS)

### Leon Bottou

Facebook AI Research Learning in Machines & Brains

# LANCELOT M. BERKELEY — NEW YORK COMMUNITY TRUST PRIZE FOR MERITORIOUS WORK IN ASTRONOMY (AMERICAN ASTRONOMICAL SOCIETY)

#### **Matt Dobbs**

McGill University
Gravity & the Extreme Universe

### Mark Halpern

University of British Columbia Gravity & the Extreme Universe

### **Gary Hinshaw**

University of British Columbia Gravity & the Extreme Universe

### Victoria Kaspi

McGill University
Gravity & the Extreme Universe

#### Ue-Li Pen

University of Toronto
Gravity & the Extreme Universe

#### **Scott Ransom**

National Radio Astronomy Observatory Gravity & the Extreme Universe

### Kendrick Smith

Perimeter Institute for Theoretical Physics Gravity & the Extreme Universe

### Ingrid Stairs

University of British Columbia Gravity & the Extreme Universe

With other members of the Canadian Hydrogen Intensity Mapping Experiment (CHIME) Fast Radio Burst Team.

### MARGARET OAKLEY DAYHOFF AWARD (BIOPHYSICAL SOCIETY)

### Gabriela Schlau-Cohen

Massachusetts Institute of Technology Bio-inspired Solar Energy

### MASSEY MEDAL (ROYAL CANADIAN GEOGRAPHIC SOCIETY)

### Barbara Sherwood Lollar University of Toronto

Earth 4D: Subsurface Science & Exploration

### MAX BORN MEDAL AND PRIZE (INSTITUTE OF PHYSICS AND THE GERMAN PHYSICAL SOCIETY)

### Claudia Felser

Max Planck Institute for Chemical Physics of Solids Quantum Materials

### MICHAEL S. PATTERSON PUBLICATION IMPACT PRIZE (CANADIAN ORGANIZATION OF MEDICAL PHYSICISTS)

#### Martin Vallières

Université de Sherbrooke and Mila Canada CIFAR AI Chair

### MICROBIOLOGY SOCIETY PRIZE MEDAL & LECTURE (MICROBIOLOGY SOCIETY, UNITED KINGDOM)

#### **Martin Blaser**

Rutgers University Humans & the Microbiome

### NACCS LIFETIME ACHIEVEMENT AWARD (NEURO ANAESTHESIA AND CRITICAL CARE SOCIETY, UNITED KINGDOM)

### **David Menon**

University of Cambridge Brain, Mind & Consciousness

### NAS AWARD IN THE NEUROSCIENCES (NATIONAL ACADEMY OF SCIENCES, USA)

### Nancy Kanwisher

Massachusetts Institute of Technology Brain, Mind & Consciousness

### PIERRE CHAUVEAU MEDAL (ROYAL SOCIETY OF CANADA)

### Will Kymlicka

Queen's University Boundaries, Membership & Belonging

### RONALD GREELEY EARLY CAREER AWARD IN PLANETARY SCIENCES (AMERICAN GEOPHYSICAL UNION)

### **Timothy Goudge**

University of Texas at Austin Earth 4D: Subsurface Science & Exploration and CIFAR Azrieli Global Scholar

### ROVEE-COLLIER MENTOR AWARD (INTERNATIONAL SOCIETY FOR DEVELOPMENTAL PSYCHOBIOLOGY)

### Megan Gunnar

University of Minnesota Child & Brain Development

### RUFUS Z. SMITH AWARD (ASSOCIATION FOR CANADIAN STUDIES IN THE UNITED STATES)

#### Will Kymlicka

Queen's University Boundaries, Membership & Belonging

### SAGE EARLY CAREER TRAJECTORY AWARD (SOCIETY FOR PERSONALITY AND SOCIAL PSYCHOLOGY, USA)

#### Michael Muthukrishna

London School of Economics Boundaries, Membership & Belonging and CIFAR Azrieli Global Scholar

### SAMSUNG HO-AM PRIZE IN ENGINEERING (HO-AM FOUNDATION, SOUTH KOREA)

### Kyunghyun Cho

New York University
Learning in Machines & Brains

### SHAW PRIZE IN ASTRONOMY (SHAW FOUNDATION, HONG KONG)

### Victoria Kaspi

McGill University
Gravity & the Extreme Universe

## TOP 25 WOMEN OF INFLUENCE (WOMEN OF INFLUENCE INC., CANADA)

#### Raquel Urtasun

University of Toronto
Learning in Machines & Brains

### **Honours**

### CHEVALIER DE LA LÉGION D'HONNEUR DE LA FRANCE (GOVERNMENT OF FRANCE)

#### Yoshua Bengio

Université de Montréal and Mila Learning in Machines & Brains and Canada CIFAR Al Chair

### FELLOW OF THE AMERICAN ACADEMY OF MICROBIOLOGY

### **Eran Elinav**

Weizmann Institute of Science Humans & the Microbiome

### FELLOW OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

### **Leon Balents**

University of California, Santa Barbara Quantum Materials

### Yann LeCun

Facebook and New York University Learning in Machines & Brains

### Jeffrey McDonnell

University of Saskatchewan Earth 4D: Subsurface Science & Exploration

### FELLOW OF THE AMERICAN GEOPHYSICAL UNION

### Fumio Inagaki

Japan Agency for Marine-Earth Science and Technology (JAMSTEC) Earth 4D: Subsurface Science & Exploration

### Victoria Orphan

California Institute of Technology Earth 4D: Subsurface Science & Exploration

### FELLOW OF THE AMERICAN SOCIETY FOR BIOCHEMISTRY AND MOLECULAR BIOLOGY

### **Catherine Drennan**

Massachusetts Institute of Technology Bio-inspired Solar Energy

### FELLOW OF THE AUSTRALIAN ACADEMY OF THE HUMANITIES

### Tim Bayne

Monash University
Brain, Mind & Consciousness

### FELLOW OF THE ROYAL SOCIETY (UNITED KINGDOM)

### **Richard Sutton**

University of Alberta, DeepMind and Amii Learning in Machines & Brains and Canada CIFAR Al Chair

#### Louis Taillefer

Université de Sherbrooke Quantum Materials

### FELLOW OF THE ROYAL SOCIETY OF CANADA

### **Curtis Berlinguette**

University of British Columbia Bio-inspired Solar Energy

## FELLOW OF THE ROYAL SOCIETY OF CHEMISTRY (UNITED KINGDOM)

### Alán Aspuru-Guzik

University of Toronto and Vector Institute Bio-inspired Solar Energy and Canada CIFAR AI Chair

### Osamu Ishitani

Tokyo Institute of Technology Bio-inspired Solar Energy

## FOREIGN ASSOCIATE OF THE INSTITUT DE FRANCE ACADÉMIE DES SCIENCES

### Eva Stukenbrock

Max Planck Institute of Evolutionary Biology Fungal Kingdom: Threats & Opportunities

### FOREIGN MEMBER OF THE ROYAL SWEDISH ACADEMY OF SCIENCES

### **Charles Boone**

University of Toronto Fungal Kingdom: Threats & Opportunities

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### GEOCHEMISTRY FELLOW (GEOCHEMICAL SOCIETY AND THE EUROPEAN ASSOCIATION OF GEOCHEMISTRY)

### **Chris Ballentine**

University of Oxford Earth 4D: Subsurface Science & Exploration

### Fumio Inagaki

Japan Agency for Marine-Earth Science and Technology (JAMSTEC) Earth 4D: Subsurface Science & Exploration

### IEA FELLOW (INTERNATIONAL ECONOMICS ASSOCIATION)

### Vijayendra Rao

World Bank Boundaries, Membership & Belonging

## INTERNATIONAL MEMBER OF THE NATIONAL ACADEMY OF SCIENCES (USA)

### **Gilles Brassard**

Université de Montréal Quantum Information Science

#### Claudia Felser

Max Planck Institute for Chemical Physics of Solids Quantum Materials

### Regine Kahmann

Max Planck Institute for Terrestrial Microbiology Fungal Kingdom: Threats & Opportunities

### MEMBER OF THE AMERICAN ACADEMY OF ARTS AND SCIENCES

### Vassiliki Kalogera

Northwestern University
Gravity & the Extreme Universe

### Thom McDade

Northwestern University Child & Brain Development

### MEMBER OF THE COLLEGE OF NEW SCHOLARS, ARTISTS AND SCIENTISTS (CANADA)

### Meghan Azad

University of Manitoba Humans & the Microbiome

### MEMBER OF THE NATIONAL ACADEMY OF SCIENCES LEOPOLDINA (GERMANY)

## Joseph Heitman Duke University Fungal Kingdom: Threats

& Opportunities

### MEMBER OF THE NATIONAL ACADEMY OF SCIENCES (USA)

### Joseph Heitman

Duke University
Fungal Kingdom: Threats
& Opportunities

### Yann LeCun

Facebook and New York University Learning in Machines & Brains

### **Thom McDade**

Northwestern University Child & Brain Development

### SENIOR MEMBER OF THE NATIONAL ACADEMY OF INVENTORS

### **Hailing Jin**

University of California, Riverside Fungal Kingdom: Threats & Opportunities