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2017 World Finals
Rapid City

acm International Collegiate Programming Contest

IBM event sponsor 20 years of support
Dear Participants of the 2017 ACM ICPC World Finals,

It is a privilege to welcome the ACM International Collegiate Programming Contest World Finals to South Dakota. The people of South Dakota are pleased to have the opportunity to host this most prestigious Olympic-style competition on its first scheduled return to America in 12 years.

We are particularly pleased that the 2017 ICPC World Finals is being held in Rapid City, the home of the South Dakota School of Mines and Technology (SDSMT). This world-renowned engineering and science research university has helped South Dakota companies become global leaders in their industries. Not far from Rapid City is the state’s underground research lab in Lead, SD, where researchers from around the world are conducting experiments relating to neutrinos and dark matter.

South Dakota offers visitors a wide range of opportunities to experience American culture and traditions. If it’s your first time in South Dakota, I would strongly encourage you to visit the nearby stone monuments that celebrate American leaders: Mount Rushmore National Memorial and the Crazy Horse Memorial. Custer State Park is also close by, where you can see wildlife up close and experience the natural beauty of the Black Hills.

Best wishes as you prepare to demonstrate which teams will be designated the best of the best for 2017.

Sincerely,

Dennis Daugaard
Governor of South Dakota
Welcome Participants, Families, and Fans!

On behalf of the citizens of Rapid City, I am thrilled to welcome you to the ACM ICPC World Finals. We are delighted and humbled to be the host of this world-renowned intellectual collegiate event. It is truly an honor to have you as a guest in our city, and we hope your visit is a memorable one.

Rapid City was founded in 1876 by a group of unfortunate gold miners and is nestled against the slope of the Black Hills mountain range. The city has grown leaps and bounds since that time, but still embodies a high level of Midwestern charm and hospitality. We hope you will experience an abundance of both during your short visit.

I encourage you to take full advantage of the activities that have been arranged for you this week. We hope that you will have the opportunity to tour our scenic area, enjoy our culture and rich history, and revel in a few of the unique local attractions we have to offer. Although you are here as competitors, we hope you will leave as friends and colleagues who can collaborate together for many years to come.

The significance and universal reliance on technology will continue to evolve exponentially as time goes on, and we look to you for the future innovations of computer technologies and programming. Your creative energy and intellectual capacities are certain to lend a hand in ongoing global economic growth and development.

Congratulations to each of you for making it this far! We hope you are inspired to visit us again soon.

Sincerely,

Steve Allender, Mayor
Rapid City, South Dakota
Congratulations on qualifying for the World Finals and welcome to South Dakota!

It’s been over a decade since the International Collegiate Programming Contest has been scheduled in the United States and we are glad to have you in Rapid City and the Black Hills of South Dakota.

We hope your time with us is memorable and life changing – engaging with the best computing talent from all over the world and visiting one of the most beautiful regions in America.

This year marks the seventh time South Dakota Mines students have been invited to the ICPC World Finals. Our excellence in computer science is the reason the ICPC finals are being held in the Black Hills this year.

The School of Mines would like to thank all of the volunteers, coaches, mentors and corporations who have made this competition possible. In particular, we want to thank IBM, the Association for Computing Machinery, the International Collegiate Programming Contest, Baylor University, the City of Rapid City, and the great volunteers at Excellence in Computer Programming, Inc. for making the competition a success.

Have a wonderful stay in the Rushmore Region and good luck!

Heather Wilson
President
South Dakota School of Mines & Technology
Greetings,

On behalf of Visit Rapid City, I am honored to welcome you to the 2017 World Finals of the International Collegiate Programming Contest. We are thrilled to host this event in our wonderful city!

Great events start with great locations, and Rapid City, South Dakota is definitely one of those cities. Rapid City offers adventure and all the amenities you would expect – and it is all nestled in a vibrant community that inspires BIG possibilities. Rapid City is centrally located to numerous bucket list-worthy experiences, like Mount Rushmore National Memorial, Crazy Horse Memorial, Badlands National Park, Custer State Park, two national caves, and many more popular sites and activities.

Rapid City’s contemporary vibe and its deeply meaningful and rich cultural heritage will make for a memorable experience. Visit Downtown Rapid City and Main Street Square – it’s the perfect complement to your contest. Enjoy the Black Hills adventure with added urban pleasures. Great local restaurants, an assortment of boutiques and gift shops, and a fun-filled public space where special events are held throughout the year, all of which are surrounded by the City of Presidents, a series of life-sized bronze statues of the nation’s past leaders and reminders of America’s legacy, await you.

**Do Big Things.** Be inspired by the remarkable beauty and spirited achievements that serve as the essence of Rapid City and the Black Hills of South Dakota. Good luck to all the participants from top institutions around the world!

Sincerely,

Julie Schmitz Jensen, Executive Director  
Rapid City Area Convention and Visitor’s Bureau
Dear Friends,

Welcome to the 2017 ACM-ICPC World Finals in Rapid City, South Dakota, the home of the South Dakota School of Mines and Technology (SDSM&T). Excellence in Computer Programming, Inc. (ECP) is privileged to host the ACM International Collegiate Programming Contest (ICPC) World Finals in the Rushmore Plaza Civic Center.

ECP and the Rapid City community, on behalf of the people of the United States, welcome the ICPC leadership, the Regional Contest Directors, and the student teams to the 2017 World Finals. Special thanks to those who made it possible for the 133 three person teams from across the world, from among over 40,000 of the world’s finest computer science students, to compete in university and regional contests for the opportunity to participate in the 2017 World Finals. These students will demonstrate their critical thinking abilities as they solve challenging problems and will be recognized as the best computer programmers in the world.

The world-class Rushmore Plaza Civic Center and its exceptional staff and community host volunteers are ready to provide an environment of excellence for the 2017 ICPC World Finals. Located in downtown Rapid City, the team hotels are only a short walk to the Civic Center and the activities of the 2017 World Finals.

The faculty and students of the SDSM&T have a long and proud history of participating in the ICPC. We are pleased to have the unique opportunity of welcoming our many colleagues and friends to our home community. We encourage you to participate in the activities of Rapid City Day, including the new 2017 Technical Innovation Seminar, and trips to Mount Rushmore Memorial, SDSM&T museums, the history and arts facilities of Rapid City, and the visitor center of SURF, which is the world’s newest underground laboratory for the study of neutrinos and dark matter.

The Board of Directors of ECP thanks the ACM-ICPC community for the opportunity to host the 2017 ICPC World Finals and extends our best wishes to all members of the 2017 ICPC teams.

With warmest regards,

Richard J Gowen, PhD, FIEEE
President Emeritus of SDSM&T and DSU
President ECP
Welcome to Rapid City!

Welcome to the 41st Annual ACM International Collegiate Programming Contest World Finals sponsored by IBM and hosted by Excellence in Computer Programming, Inc. We have partnered with the UPE Honor Society, ACM, and IBM to provide you with the finest possible experience here in Rapid City, South Dakota, USA, at the Hotel Alex Johnson, Howard Johnson Inn & Suites, The Rushmore Hotel, Best Western Ramkota Hotel, Rushmore Plaza Holiday Inn, and the Rushmore Plaza Civic Center.

The ACM-ICPC World Finals culminates the efforts of faculty and students from 2,948 universities in 103 countries where 46,381 students competed in teams of three at 530 regional sites worldwide. The top 133 teams have advanced to the World Finals. Congratulations to the 2017 World Finalists and all who have made this possible!

This year’s World Finalists have earned the right to compete for further recognition. They outperformed 99% of the finest university programmers from six continents who challenged them to do their best. So here they are, champions all, set to earn medals – bronze, silver, and gold – while vying to make the “2017 World Champions” prove their worth!

There are so many stars visible in the ICPC Community. UPE has served for 47 years, ACM has served for 41 years, and Baylor University has served for 34 years. Over the 20 years of IBM sponsorship, the ICPC has expanded participation by 2000%! Clearly, IBM is #1!

Consider the Measures Award recipient, Jeff Donahoo, ICPC Deputy Executive Director and Baylor University Professor of Computer Science. Over the past 15 years, Jeff has also served as headquarters chief technology officer, has principal oversight for organizing and planning the World Finals, and has been a driving force in support of ICPC News.

Consider the DeBlasi Award recipients, Toni Logar, Ed Corwin, Dick & Nancy Gowen, and the cast of ICPC volunteers whose efforts have built the program at SDSMT, advanced computing in the North Central Region, established Excellence in Computing, Inc., and engaged the South Dakota community in support of the 2017 World Finals.

Here we are in Rapid City, a center for the history of Native Americans and the American West, home of the South Dakota School of Mines & Technology, set in the wild beauty of South Dakota, USA, and nourishing a culture of excellence in education, research, innovation, and entrepreneurship. We stand together to build the strength of mind, character, programming skills, and problem-solving prowess that will open doors of opportunity and prosperity for future generations. Tap into that strength and build a better tomorrow.

With the able support of Dick Gowen of ECP, Inc. and Jeff Donahoo of ICPC Headquarters, the 2017 ICPC World Finals volunteers have made ready an extraordinary experience for all. Let’s join them as we look forward to the 2017 World Finals whose medals are forged in the crucible of judges’ problems and the finest 133 teams ever!

Best Wishes!

William B. Poucher, Ph.D., ACM Fellow
ICPC Executive Director

P.S. Do you see that cool logo right over there? Join. I did.

The ACM doors are open.
It is with great pleasure that I welcome you to the 41st Annual World Finals of the ACM International Collegiate Programming Contest, sponsored by IBM and hosted by Excellence in Computer Programming, Inc. We are here to celebrate you – the world’s best collegiate problem solvers – and the global community supporting them. You are the innovators and problem solvers who will change history. You have persevered through difficult circumstances, mastered the art of cooperation, and dedicated yourselves to the pursuit of excellence. The work you do here will set the standard for future generations. By solving some of the most difficult problems in ICPC World Finals history, you will transform the “impossible” into the conventional.

This year’s ICPC contests included over 50,000 of the most outstanding students and faculty members from almost 3,000 universities in over 100 countries. The ICPC community is dedicated to the mission of no barriers to any students in preparing to be great problem solvers. You are a prime example of what is possible through education and competition. Through your actions, you are shining a bright spotlight on yourselves, your families, your coaches, and your universities. You will make history this week, and the ICPC is proud of all you have and will accomplish.

The setting of the 2017 World Finals symbolizes the ideal of freedom and the power of community. Rapid City is commonly referred to as “the gateway to Mt. Rushmore,” a famous monument of leaders dedicated to these principles. Here we are, at the foot of the majestic Black Hills, near the rugged beauty of the Badlands, and surrounded by monuments honoring great leaders who have motivated and inspired countless others, much like you will do this week.

I’d like to offer a special word of thanks to Excellence in Computer Programming, ACM, UPE, Baylor University, and all of the volunteers who have made the 41st World Finals possible. Your hospitality is unparalleled. You are the community that allows our amazing 133 teams to discover the possible in themselves.

Best wishes to all of you in the contest!

Michael J. Donahoo
ICPC Deputy Executive Director
Executive Director of the World Finals
It gives me great pleasure, on behalf of IBM, to welcome you to Rapid City, South Dakota for the 41st Annual ACM International Collegiate Programming Contest (ICPC) World Finals! Celebrating our 20th anniversary of sponsorship, IBM is proud to support the world’s largest and most prestigious programming competition for the best and brightest students.

We have 133 teams of talented students from the world’s best universities and colleges on site. Congratulations to the team members on qualifying for this year’s world championship. I know that it has taken a lot of hard work and dedication to get here, and you should all be very proud of your accomplishment.

To the coaches and regional contest and site directors who devote so much of their personal time and effort in support of the ICPC, I welcome you and sincerely thank you for your passion, dedication, and commitment to developing the next generation of technology leaders.

I would like to recognize and thank the ICPC leadership and their staff of volunteers and our hosts from Excellence in Computer Programming who have been working very hard over the past year to make this week a memorable one for all of you.

While we are all focused primarily on the world championship competition that will take place on Wednesday, the organizers have put together a fun-filled week of activities for you to enjoy. I urge you to take advantage of the many opportunities to meet and network with other participants and the academic, technical, and business leaders who have gathered here with you at the Finals. Many long-lasting friendships began at an ICPC World Finals, and we hope that you will continue this tradition as active members of the ICPC family.

Of course, the highlight of the week for me, and for my IBM colleagues, will be the main competition event on Wednesday. We also look forward to spending time with you during the IBM Tech Trek presentations on Monday and throughout the week in our ChillZone. Along with games and activities, there will be interesting demos featuring our latest technologies that I’m sure you will enjoy. Our HR representatives will be there to discuss job opportunities at IBM for those who are interested in internships or full time employment.

After months of preparation, the 2017 ACM-ICPC World Finals is finally here! Be proud of what you have already accomplished. Try to get as much as you can out of this extraordinary life experience. Relax and have a lot of fun this week. The memories that you will make during this exciting and momentous time will remain with you forever!

I wish you all the best of luck.

Jonas Jacobi
ACM-ICPC Sponsorship Executive
Vice President-IBM Cloud and Mobile Technology Strategy
Welcome from ACM

It is my honor to welcome you to the 41st annual ACM International Collegiate Programming Contest (ICPC) World Finals. It's wonderful to see teams from throughout the world together in one place to compete, learn, and exchange ideas. The competitive nature of the ICPC World Finals gives young people the incentive to push their limits, rely on their teammates, and be as creative as they can. It's a good introduction to what lies ahead since your future careers will likely be characterized by dynamic teamwork.

ACM is especially grateful to Baylor University (the ICPC headquarters) and Excellence in Computer Programming, Inc. for hosting this year's event. We are also deeply thankful to IBM for its continued commitment to ICPC. This event would also not be possible without the long-standing support of UPE, the international honor society for computing and information disciplines. And, of course, we are grateful to our team coaches for their tireless dedication.

In addition to fostering the personal rewards of making new friends and lifelong memories at ICPC, ACM is happy to provide a tangible reward to all finalists by extending free student memberships. With ACM student membership, you join a global community of like-minded computing professionals and students. On behalf of ACM's nearly 100,000 members, I welcome you to ACM.

I congratulate each of you on reaching the World Finals and wish you every success in your chosen careers. There's never been a more exciting time to be in computing!

Sincerely,

Vicki L. Hanson
ACM President
On behalf of UPE, I welcome you to the 2017 ICPC World Finals, a truly exciting time for UPE and our friends and colleagues in the world of computing. The most important aspect of this competition is the luxury of being able to interact with the World’s best and brightest students in the computing and information disciplines. In addition, it is always a privilege to meet new friends and to experience the beauty and excitement of our host site, including the natural and man-made wonders around the Black Hills of South Dakota.

UPE would like to recognize and say a big Thank You to the hundreds of ICPC volunteers who are here this week, and especially to those who have faithfully supported the ICPC for several years. The success of this event is assured because of individuals from the academic and computing communities who serve as team coaches, regional directors, and contest event supporters. We also wish to give special thanks to personnel from IBM, Baylor University, ACM, and the ICPC support staff. Finally, UPE wishes to express our gratitude to our host, Excellence in Computer Programming, Inc., and the faculty, staff, and students who are here to ensure that all of us will have a wonderful and memorable stay in Rapid City.

Sincerely yours,

Orlando S. Madrigal, Ph.D.
Executive Director of UPE
Dear ICPC participants,

On behalf of Baylor University, it is my pleasure to welcome you to the 41st Annual World Finals of the ACM International Collegiate Programming Contest.

We congratulate those of you whose hard work has been rewarded by having qualified to compete as contestants and coaches. We would also like to express our deep appreciation to those of you who have offered your expertise, time, and energy to administer this competition and to make all the necessary additional arrangements for the event.

We are privileged to have Excellence in Computer Programming, Inc. as the host for this year’s event, and we are grateful for their hospitality and for all the resources that they have contributed toward making this event a wonderful experience for all involved. We value the opportunity to deepen our relationship with all of the individuals from this organization who are collaborating so generously with us in order to make this competition possible. We would also like to thank IBM for its generous sponsorship of this event.

Being able to serve ICPC for 34 years has been a tremendous privilege for Baylor. This undertaking is consonant with our institutional mission “to educate men and women for worldwide leadership and service.” Throughout all levels of the competition, not only are students inspired to lead as they develop the ability to solve programming challenges, but, even more importantly, they are challenged to solve the types of problems that can serve the needs of people throughout the world and enhance their ability to flourish.

Our best wishes to all of you for a deeply rewarding time of competition and fellowship in Rapid City.

Sincerely,

L. Gregory Jones
Executive Vice President and Provost
Baylor University
Dear ICPC participants,

I’m delighted to welcome you on behalf of Baylor University to the 41st Annual ACM International Collegiate Programming Competition World Finals.

We congratulate those of you who have qualified, through countless hours of diligent work, to compete as contestants and coaches. We’re also very grateful to all of you who are contributing your expertise, time, and energy to administer the competition and make all the ancillary arrangements for the event.

We appreciate the hospitality and the commitment of other resources that have been contributed this year by our host, Excellence in Computer Programming, Inc. We’re glad to have the opportunity to deepen our relationship with all of the individuals from this organization who are collaborating so generously with us in order to make this competition possible, and we know that this will be an unforgettable experience for all involved.

Being able to serve ICPC for 34 years has been a tremendous privilege for Baylor. Our institutional mission statement describes “educat[ing] men and women for worldwide leadership and service.” The competitive process that culminates with the World Finals very much addresses these goals. As students solve programming challenges they necessarily develop the ability to lead in important ways. Even more importantly, they can become equipped to serve, as the tasks that they undertake in the competition are the types of problems that bear on the needs and potential to flourish of people throughout the world.

All of you who have gathered here, please accept our best wishes for a deeply rewarding time of competition and fellowship in Rapid City.

James Bennighof
Professor of Music Theory and
Vice Provost for Academic Affairs and Policy
Baylor University
Dear ICPC participants,

It is my pleasure to welcome you on behalf of Baylor University to the 41st Annual ACM International Collegiate Programming Contest World Finals in Rapid City, South Dakota.

Congratulations to the 2017 finalists who represent the world’s best and brightest students in the science of programming, and our sincere thanks to their coaches for their invaluable mentorship that led to this achievement. We are also grateful for all of those who committed their time and expertise to the regional competitions which included more than 46,000 contestants at over 530 sites. Lastly, we would like to extend our deepest appreciation to those who have planned and prepared for well over a year, as well as to those who will work tirelessly during the competition, to make this ICPC World Finals the best yet.

The ACM ICPC is the oldest, largest, and most prestigious competition in computing science and engineering. It is a privilege to have ICPC headquartered at Baylor University and an honor to join IBM, ACM, and UPE in support of this commendable organization. In addition, we are grateful to Excellence in Computer Programming, Inc. for serving as host to the 2017 World Finals.

We are excited to have representatives from 133 great universities on the World Finalist teams, and our best wishes go out to each of them.

Best wishes!

Lori E. Baker
Vice Provost for Strategic Initiatives, Collaboration, and Leadership Development
Baylor University
myicpc.icpcnews.com

The World Finals
In Your Hands.
Connect to the conversation.

- Personal Interactive Scoreboard
- Most Recent Official Schedule
- Updates from ICPCNews
- Team and Coach Information
- Interactive World Map
ACM-ICPC

The ACM International Collegiate Programming Contest (ICPC) is the premiere global programming competition conducted by and for the world’s universities. The competition operates under the auspices of ACM, is sponsored by IBM, and is headquartered at Baylor University. For over four decades, the ICPC has grown to be a game-changing global competitive educational program that has raised aspirations and performance of generations of the world’s problem solvers in the computing sciences and engineering.

Teams of three students represent their universities in multiple levels of regional competition. Volunteer coaches prepare their teams with intense training and instruction in algorithms, programming, and teamwork strategy. Several ICPC universities and ICPC volunteers provide online judging systems to all free of charge. Top teams from regional competition advance to the final round. This year’s regional competitions have advanced 133 teams to the World Championship round – the 2017 ACM-ICPC World Finals sponsored by IBM and hosted by Excellence in Computer Programming – which will be conducted on 24 May, 2017 in Rapid City, South Dakota, USA.

The ICPC traces its roots to a competition held at Texas A&M in 1970 hosted by the Alpha Chapter of the UPE Computer Science Honor Society. The idea quickly gained popularity within the United States and Canada as an innovative initiative to raise the aspirations, performance, and opportunity of the top students in the emerging field of computer science.

The contest evolved into a multi-tier competition with the first Finals held at the ACM Computer Science Conference in 1977. Operating under the auspices of...
ACM and headquartered at Baylor University since 1989, the contest has expanded into a global network of universities hosting regional competitions that advance teams to the ACM-ICPC World Finals.

Since IBM became sponsor in 1997, ICPC participation has increased by more than 1800%. This year ICPC participation included 46,381 of the finest students and faculty in computing disciplines from 2,948 universities in 103 countries on six continents.

The contest fosters creativity, teamwork, and innovation in building new software programs and enables students to test their ability to perform under pressure. Quite simply, it is the oldest, largest, and most prestigious programming contest in the world.

The annual event is comprised of several levels of competition:

- **Local Contests** – Universities choose teams or hold local contests to select one or more teams to represent them at the next level of competition. Selection takes place from a field of over 300,000 students in computing disciplines worldwide.

- **Regional Contests** (January to December 2016) – This year 46,381 contestants from 2,948 universities in 103 countries on six continents competed at over 530 sites to advance to the 2017 World Finals. A record 50,145 students and 5,073 coaches competed in ICPC and ICPC-assisted competitions this year, setting new records in participation.

- **World Finals** (20-25 May, 2017, Rapid City, South Dakota, USA) – Hosted by Excellence in Computer Programming, 133 World Finalist teams will compete for awards, prizes, and bragging rights. These teams represent the best of great universities on six continents – the cream of the crop.

**BATTLE OF THE BRAINS**

The World Finals pits teams of three university students against eight or more complex, real-world problems, with a grueling five-hour deadline. Huddled around a single computer, competitors race against the clock in a battle of logic, strategy, and mental endurance.

Teammates collaborate to rank the difficulty of the problems, deduce the requirements, design test beds, and build software systems that solve the problems under the intense scrutiny of expert judges. For a well-versed computer science student, some of the problems require precision only. Others require a knowledge and understanding of advanced algorithms. Still others are simply too hard to solve – except, of course, for the world’s brightest problem-solvers.

Judging is relentlessly strict. The students are given a problem statement – not a requirements document. They are given an example of test data, but they do not have access to the judges’ test data and acceptance criteria. Each incorrect solution submitted is assessed a time penalty. You don’t want to waste your customer’s time when you are dealing with the supreme court of computing. The team that solves the most problems in the fewest attempts in the least cumulative time is declared the winner.

To learn more about the ICPC, please visit icpc.baylor.edu or acmicpc.org.

For full coverage of the World Finals including social media, photos, video, live coverage, and live scoreboard go to ICPCNews, icpcnews.com.

Visit the ICPC podcast series at battleofthebrains.podbean.com for insights from past contestants and current IBM executives.
CONTEST GROWTH

ACM, IBM, UPE, and Baylor University are thrilled that the contest continues to attract the best and brightest students from around the world. This year 46,381 contestants from 2,948 universities in 103 countries competed in regional competitions at over 530 sites worldwide. Since the beginning of IBM’s sponsorship in 1997, participation has increased more than 1800%. For more information on previous contests, and last year’s final standings and problem sets, please see icpc.baylor.edu. Growth continues.
World Finals 2017 hosted in Rapid City – the final round following the 2016 Regionals

133 teams from regional contests servicing universities worldwide will advance to the World Finals to be held in Rapid City, South Dakota, USA, 20-25 May 2017. The 2017 World Finals is hosted by Excellence in Computer Programming.

Recent medal winners in order of finish are:

2016 Gold St. Petersburg State University (Russia)  
Shanghai Jiao Tong University (China)  
Harvard University (USA)  
Moscow Institute of Physics & Technology (Russia)  
Silver University of Warsaw (Poland)  
Massachusetts Institute of Technology (USA)  
St. Petersburg ITMO University (Russia)  
Ural Federal University (Russia)  
Bronze University of Wroclaw (Poland)  
Nizhny Novgorod State University (Russia)  
Lviv National University (Ukraine)  
Fudan University (China)  
University of Waterloo (Canada)

2015 Gold St. Petersburg ITMO University (Russia)  
Moscow State University (Russia)  
The University of Tokyo (Japan)  
Tsinghua University (China)

2014 Gold St. Petersburg State University (Russia)  
Moscow State University (Russia)  
Peking University (China)  
National Taiwan University (Taiwan)

2013 Gold St. Petersburg ITMO University (Russia)  
Shanghai Jiao Tong University (China)  
The University of Tokyo (Japan)  
National Taiwan University (Taiwan)

2012 Gold St. Petersburg ITMO University (Russia)  
University of Warsaw (Poland)  
Moscow Institute of Physics & Technology (Russia)  
Shanghai Jiao Tong University (China)

2011 Gold Zhejiang University (China)  
University of Michigan at Ann Arbor (USA)  
Tsinghua University (China)  
St. Petersburg State University (Russia)
Organizers

About ACM

ACM, the Association for Computing Machinery, with more than 100,000 members, is the world's largest educational and scientific computing society, uniting computing educators, researchers, professionals, and students to inspire dialogue, share resources, and address the field's challenges. ACM strengthens the computing profession's collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence. ACM supports the professional growth of its members by providing opportunities for lifelong learning, career development, and professional networking. For more information, see acm.org.

About IBM

IBM is a globally integrated technology and consulting company. With operations in more than 170 countries, IBM attracts and retains some of the world's most talented people to help solve problems and provide an edge for businesses, governments, and non-profits. Innovation is at the core of IBM's strategy. The company develops and sells software and systems hardware and a broad range of infrastructure, focusing on growth initiatives such as cognitive computing, cloud computing, big data and analytics, mobile, social business, and security. For more information, visit ibm.com.

IBM's Commitment

IBM's sponsorship commitment to the ACM International Collegiate Programming Contest is part of a company-wide effort to advance the next generation of technology leaders and problem solvers who have combined skills of computing science and business management. For more information, visit ibm.com/university.

About Excellence in Computer Programming (ECP)

The ECP champions a culture of excellence by integrating the capabilities of the host partners of South Dakota. Host partners who are leaders of industry and government are providing the personnel and financial resources for the 2017 World Finals. Rapid City is the home of the South Dakota School of Mines and Technology (SDSMT), the engineering and science research university of South Dakota. SDSMT is a research partner of the 8000-foot-deep Sanford Underground Research Facility (SURF), the world's newest laboratory for the study of neutrinos and dark matter which is located in Lead, South Dakota. ECP is a non-profit corporation dedicated to providing an environment in which people of all ages and ability levels can develop their coding expertise through individualized study, extracurricular activities, and participation in competitive programming.
Baylor University’s Commitment

Baylor University has been the home of the ICPC since the late 1980s, where it has been managed under the direction of Executive Director and Professor, Dr. William B. Poucher, with global enterprise technology development headed by Dr. Jeff Donahoo, Deputy Executive Director. The ICPC contributes to Baylor’s global mission to encourage the next generation to develop and apply their problem-solving talents to the challenges that face the world today and the world to come. Chartered by the Republic of Texas, Baylor is the oldest institution of higher learning in the State of Texas. You may find more about Baylor at baylor.edu.

Upsilon Pi Epsilon’s Commitment

The Upsilon Pi Epsilon International Computer Science Honor Society recognizes the best students of computer science and engineering in the world. Since its earliest participation, the UPE has provided support and scholarships to the World Finals teams. The UPE boasts the longest continuous relationship to the ICPC, dating back to 1970 with the first event held at Texas A&M by members of the Alpha Chapter of the UPE. For more information about other UPE activities, its chapters, and its membership click on: upe.acm.org.
MISSION

The ACM International Collegiate Programming Contest (ICPC) provides college students with opportunities to interact with students from other universities and to sharpen and demonstrate their problem-solving, programming, and teamwork skills. The contest provides a platform for ACM, industry, and academia to encourage and focus public attention on the next generation of computing professionals as they pursue excellence. (from the ICPC Policies and Procedures)

INTRODUCTION

The contest is a two-tiered competition among teams of students representing institutions of higher education. Teams first compete in Regional Contests, held around the world each year. The winning team from each Regional Contest advances to the ACM International Collegiate Programming Contest World Finals, which is typically held between March and June. Additional high-ranking teams may be invited to the World Finals. Up to 133 teams will be invited. These rules are subject to change.

ORGANIZATION

The ICPC is organized according to the ICPC Policies and Procedures. The Executive Committee, chaired by the Executive Director, sets the policy and general rules for the conduct of the contest. The Executive Director is solely responsible for interpreting the rules and for ruling on unforeseen situations.

WORLD FINALS SITE AND DATES

The 2017 World Finals will be held in Rapid City, South Dakota, May 20-25, 2017, hosted by Excellence in Computer Programming, Inc. The World Finals and associated events are planned to be at the Rushmore Plaza Civic Center.

TEAM REQUIREMENTS

Teams qualify to advance to the World Finals through Regional Contests. Only one team from a given institution may advance to the World Finals. Contestants and registered student team members will be provided free one-year memberships in ACM. No team member on the qualifying team may have competed as a contestant in two previous World Finals.

The coach of a qualifying team is the point-of-contact prior to and during World Finals activities. A contestant of a team may not serve as the coach. The coach must complete certification at the Team Certification Web Site within five (5) business days of notification. Qualifying teams will be issued an invitation by email and postal mail (if requested) soon after completing certification.

All team members who are attending the team’s institution on visas must have permission to return to their destination after the World Finals. Qualifying teams requiring visas must initiate the process of applying for visas within 10 business days of being issued an invitation to apply for a visa. Teams failing to comply with any of these requirements will be ruled ineligible to compete in the World Finals. Upon completion of these requirements, a qualifying team will be advanced to the World Finals.
A team advancing to the World Finals will be comprised of the same three members as when it qualified. (Reserves are not allowed at the Finals.) In the event that a team member is unwilling, unable, or unfit to compete in the World Finals, the coach must notify the manager in a timely manner. A team member who is unwilling or unfit to compete in the World Finals will be disqualified from further ICPC competitions. The team member may appeal disqualification to the Appeals Committee.

At on-site registration, participants must provide picture ID (passport, driver's license, etc.). Contestants must show proof of enrollment at the university during the term of the regional contest at which they qualified. A letter on university stationery with the signature of a university official accompanied by an English translation is sufficient.

ATTENDANCE

Finalists must attend all required events from On-Site Registration to Celebration as indicated in the Schedule of Events. Failure to attend any required event will result in disqualification and forfeiture of scholarships and prizes. Coaches must be accessible during On-Site Registration, Dress Rehearsal, the World Finals, and the Closing Ceremony.

SUPPORT AND PRIZES

Each finalist team will be provided with hotel accommodations for the coach and three contestants according to dates published on ICPC Invitations. The hotel accommodations will provide gender privacy. The teams and coaches will be treated to a full schedule of activities including a full course of complimentary food functions.

Transportation to the World Finals is the responsibility of the finalists. The ICPC encourages teams to raise funds for transportation and extracurricular activities from local sources to better strengthen community ties among academia, industry, and government.

Teams finishing in the top four positions will be awarded Gold Medals. Those teams finishing fifth through eighth place will be awarded Silver Medals. Those teams finishing ninth through twelfth place will receive Bronze Medals. Additional Bronze Medals may be awarded to teams solving the same number of problems as the twelfth place team and in a total elapsed time no more than 60 minutes more than the twelfth place team. Such teams will be awarded twelfth place.

The highest scoring team is the World Champion and will receive the World Champion Cup and plaques. The other top twelve teams, the North American Champions, the Latin American Champions, the European Champions, the South Pacific Champions, the Asian Champions, and the Africa & Middle East Champions will also receive plaques.

The World Champion team will be awarded $15,000. Each of the other three Gold Medal teams will be awarded $7,500. Each Silver Medal team will be awarded $6,000. Each Bronze Medal team will be awarded $3,000.

Courtesy of the UPE Computer Science Honor Society, the First Solution Award will be $1,500. For the other solved problems, The First to Solve Award will be $1,200.

CONDUCT OF THE FINALS

Ten or more problems have been posed in recent World Finals.

Problems will be posed in English. During the contest, all communications from contest officials to contestants will be in English. Each team may identify an interpreter for translating questions posed by contestants to contest officials. Contestants may bring
electronic natural language translators provided that they do not support math operations.

Solutions to problems submitted for judging are called runs. Each run is judged as accepted or rejected, and the team is notified of the results. Rejected runs will be marked as follows:
- run-time error
- time-limit exceeded
- wrong answer

Notification of accepted runs may be suspended at the appropriate time to keep the final results secret. A general announcement to that effect will be made during the contest. Notification of rejected runs will continue until the end of the contest.

A contestant may submit a claim of ambiguity or error in a problem statement by submitting a clarification request. If the Judges agree that an ambiguity or error exists, a clarification will be issued to all contestants.

While the contest is scheduled to last five hours, the Finals Director has the authority to lengthen the contest in the event of unforeseen difficulties. Should the Contest duration be altered, every attempt will be made to notify contestants in a timely and uniform manner.

**SCORING OF THE FINALS**

The World Finals Judges are solely responsible for determining the correctness of submitted runs. In consultation with the World Finals Judges, the Director of Judging is responsible for determining the winners of the World Finals. They are empowered to adjust for or adjudicate unforeseen events and conditions. Their decisions are final.

Teams are ranked according to the most problems solved. Teams placing in the first twelve places who solve the same number of problems are ranked first by least total time and, if need be, by the earliest time of submittal of the last accepted run.

The total time is the sum of the time consumed for each problem solved. The time consumed for a solved problem is the time elapsed from the beginning of the contest to the submittal of the first accepted run plus 20 penalty minutes for every previously rejected run for that problem. There is no time consumed for a problem that is not solved.

**COMPUTING ENVIRONMENT**

The World Finals programming language tools include Java, C, C++, and Python. See the Programming Environment Web Site for detailed configuration information. Prior to the World Finals, the judges will have solved all problems in Java and C++.

Each team will be provided with a single computer and a calculator. All teams will have equivalent computing equipment.

Contestants may not bring any printed materials or machine-readable versions of software or data to the Contest Area. Contestants may not bring their own computers, computer terminals, calculators, or other electronic devices to the Contest Area.

Each team member may bring an unannotated natural language printed dictionary. On-line reference materials will be made available as described in the Reference Materials section of the Programming Environment Web Site. Each team will be permitted three copies of the Team Reference Document described in the On-Site Registration Instructions.

**CONTESTANT CONDUCT**

**DO NOT TOUCH ANYTHING** at the team workstations until so directed by the Finals Director.

Contestants are not to converse with anyone except members of their team and personnel designated by the Finals Director. Systems support staff may advise contestants on system-related problems such as explaining system error messages.

A team may be disqualified by the Finals Director for any activity that jeopardizes the World Finals such as dislodging extension cords, unauthorized modification of contest materials, or distracting behavior.
Activities

TEAM REGISTRATION

All teams and coaches must present themselves for registration at the time selected by appointment. Registration is provided by UPE and Baylor University, whose representatives certify that team paperwork and Team Reference Documents comply with ICPC rules.

IBM WELCOME

IBM hosts a dinner to welcome all registered attendees.

IBM TECH TREK

IBM’s innovators lead the industry in developing interesting and important technology for the world’s needs. This event includes presentations on some fascinating IBM projects. Attendance is required for teams and coaches.

IBM CHILLZONE

An area sponsored by IBM where contestants can relax, play games, engage IBM staff, and interact with neat demos featuring cloud, cognitive and IoT technologies.

OPENING CEREMONY

This required event recognizes some of the hundreds of volunteers who have worked to make this year’s World Finals a reality and represents the first public introduction of this year’s World Finals contestants – the best of the best collegiate programmers.

THE WORLD FINALS DRESS REHEARSAL

A full-scale rehearsal and practice of the World Finals.

UPE DINNER, COURTESY OF IBM

This event, hosted by IBM, features dinner and an evening of fun and interaction.

THE WORLD FINALS

The time has come. Teams from six continents battle in a five-hour competition to see who takes home this year’s prizes, accolades, and bragging rights as the top collegiate programmers in the world.

CLOSING CEREMONY

This required event will be held to crown the ACM-ICPC World Champions and medal winners!

THE WORLD FINALS CELEBRATION SPONSORED BY IBM

The place and activities are always exciting. The end result is always a phenomenally fun time for contestants and volunteers alike, hosted by ACM-ICPC sponsor IBM.
Rapid City Day provides opportunities for participants in the 2017 World Finals to experience the cultural, historical, and technological aspects of South Dakota.

Each participant may register for activities, selecting from five options, each of which is offered both in the morning and the afternoon.

**1. TECHNOLOGY INNOVATION SEMINAR**
The Technology Innovation Seminar is a new feature offered for the 2017 World Finals in Rapid City. The Technology Innovation Seminar will be led by moderator Dr. Steve Bourne and focuses on three speakers who are leaders in global innovation in computer-related research and development.

**Moderator:** Dr. Steve Bourne is Chief Technical Officer at Rally Ventures in Menlo Park, California. He also is chair of ACM Queue, a magazine that he started in 2003. He held senior engineering management positions at Cisco Systems, Sun Microsystems, Digital Equipment, and Silicon Graphics. Prior to that at Bell Laboratories, he designed the UNIX Command Language or “Bourne Shell.” He is Past President and Fellow of the ACM and is a Fellow of the Royal Astronomical Society.

**Emerging Innovations in Additive Manufacturing – Rob Mudge**
Robert P. Mudge is the Chief Executive Officer and co-founder of RPM Innovations Inc. (RPMI), Rapid City, SD, the world leader in powder-fed laser deposition technology for a wide range of critical applications including aerospace and defense. The precision and intricacy of large 3D items is determined by RPMI proprietary software for additive freeform manufacturing. RPMI designs, builds, and sells the world’s largest controlled-atmosphere laser deposition systems.

**Innovations in Serverless Computing – Bryan Cantrill**
Bryan M. Cantrill is Chief Technical Officer of Joyent, Inc., San Francisco. He pioneered innovations in public cloud computing and was among the first to embrace industrialized containers and serverless computing. In 2016 Joyent was acquired by Samsung, thus providing broader access to the next generation of container innovations and Triton cloud technology. Bryan is perhaps best known for his work on Dtrace that was created at Sun Microsystems for troubleshooting kernel and application problems on production systems in real time.

**Making Money Using Math – Erik Meijer**
Erik Meijer, Palo Alto, CA, is a Dutch computer scientist and entrepreneur. From 2000 to early 2013, he was a software architect for Microsoft where he headed the Cloud Programmability Team. He then founded Applied Duality, Inc. Erik is best known for his work on Haskell and the C# language. Erik is now at Facebook where he is responsible for the server infrastructure.
2. MOUNT RUSHMORE NATIONAL MEMORIAL
Visit the world-famous mountain carving of the faces of four presidents who led America to greatness at critical times in the development of the United States. The visit includes the visitor center with the history of the presidents, the sculptor’s studio, and an exhibit of how the carving was prepared.

3. SANFORD UNDERGROUND RESEARCH FACILITY VISITORS CENTER
Explore the innovative SURF Visitors Center, the world’s newest underground research facility located in a former 8000 ft. deep gold mine. The exhibits at the SURF Visitors Center describe the research experiments for the study of neutrinos and dark matter that are located a mile underground to provide the most minimal cosmologic background of any place on earth.

4. RAPID CITY CULTURAL TOUR (WALKING TOUR)
Visit the Journey Museum exhibits that include the culture of the Native Americans, the history of pioneer settlers who developed South Dakota’s agriculture and industry, and the geologic formation of South Dakota. Explore the Dahl Arts Center which provides exhibits of modern, traditional, and innovative art created by leading artists across America. Complete a walking tour of Rapid City and locate the statues of 42 American presidents on the street corners of the downtown area.

5. SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY MUSEUMS
Experience the award-winning exhibits of the Museum of Geology and the James E. Martin Paleontology Research Laboratory at the South Dakota School of Mines and Technology, the engineering and science research university of South Dakota. Exhibits at the Museum of Geology include mounted skeletons of dinosaurs, mammals, marine reptiles, and fish; rare fossils from the White River Badlands, arranged in time-specific dioramas; and mineral displays including the Hall of South Dakota Minerals, meteorites, and a fluorescent mineral room. A visit to the Paleontology Research Laboratory provides a behind-the-scenes look at fossil preservation.
The Board of Directors of Excellence in Computer Programming (ECP), Inc. is pleased to serve as your host committee for the 2017 ACM ICPC World Finals. We congratulate the teams and coaches on their achievement and on being recognized as among the best of the best computer scientists in the world.

ECP is a nonprofit corporation whose mission is to create and disseminate programs that prepare globally competitive computer coders. We recognize that the best coders have broad coding experiences developed through participation in competitive programming. Many of the concepts for developing our initiatives are the result of discussions with ICPC leaders at prior world finals.

The Coder Workforce Initiative, an ECP program, was initiated to provide a comprehensive extra-curricular environment that promotes excellence in computer programming similar to the pedagogies of music and sports. One of the goals of the Coder Workforce Initiative is to provide students with individualized learning as well as access to mentoring, coaching, and competitive challenges through the Internet. The environment for this program provides critical thinking and problem-solving experiences that encourage the development of reliable and secure computer systems.

More information about ECP and a list of resources for educators can be found at www.codewf.org
Welcome to Rapid City, South Dakota

Rapid City, known as the gateway to the Black Hills, is the largest city in all of western South Dakota. It comes as no surprise that Rapid City is also the medical, educational, cultural, air transportation, and shopping hub for the entire Black Hills region. In the face of ongoing expansion, Rapid City remains a low-key place with friendly shopkeepers and minimal traffic hassles.¹ When you see this micro-urban community now, it is hard to believe it started as a small town named Hay Camp.

In 1874, gold brought prospectors to the Black Hills. By 1876, discouraged gold miners John Brennan and Samuel Scott led a group of men to the banks of Rapid Creek and laid out a square-mile business district. Six months later the small town was home to over 100 people.² The population only grew as the years went on. President Calvin Coolidge made the Black Hills his summer home, sculptor Gutzon Borglum started carving Mount Rushmore and Rapid City became the home of “Big Dreams.”

The gold rush created a need for engineering, which led to the founding of South Dakota School of Mines & Technology in 1885. The University was founded to provide instruction in the mining industry. Following World War I, the University built its reputation as a diversified science and engineering school due to a rapid increase of students and the termination of college preparatory courses. South Dakota School of Mines & Technology continues to expand its curriculum by increasing the number of science baccalaureate degrees and graduate programs.

On June 9th of 1972, Rapid City changed forever when massive rainfall caused Rapid Creek and Canyon Lake to overflow and flood the city. Two hundred thirty eight lives were lost during the flood – the worst natural disaster in South Dakota's history. Even today Rapid City and its residents define themselves as before the flood and after the flood.¹

Today, Rapid City is a regional economic hub and host to a vibrant local arts scene. From local theater groups, which have been present in the area for over 60 years, to public art collections in Art Alley and the Sculpture Project at Main Street Square, Rapid City boasts a variety of artistic offerings.² The city’s most popular sculptures, The City of Presidents, are a privately funded project. These 43+ statues in Downtown Rapid City have entertained tourists and locals alike and represent the legacy of the American presidency.

Rapid City is home to 22 parks including one that surrounds
Canyon Lake and a paved 13.5 mile bike path that runs beside Rapid Creek. The Creek divides the city north to south, but the beautifully forested ridge known as Skyline Drive splits it the other way. To the east lie the oldest developments, the downtown core, and Central High School; the west side, with its newer housing, golf courses, expansive Sioux Park, and Stevens High School, is almost a community unto itself. In fact, to get across town, you either have to loop several miles north and take I-90, or you have to pass through the gap, a narrow canyon carved by Rapid Creek that barely has room for two six-lane roads.¹

The Rapid City economy depends heavily on Ellsworth Air Force Base to the northeast of the city. Ellsworth employs some 3,000 military personnel and another 500 or so civilians, injecting about $140 million per year into the local economy in wages alone. Other major employers include several Black Hills Gold manufacturers, Merillat Industries (makers of particle board), Rapid City Regional Hospital, the School District, Green Tree Financial Servicing, Sanmina-SCI (an electronic-components manufacturer), the federal government, South Dakota School of Mines and Technology, and the State of South Dakota, to name a few.¹

Despite the growth of the urban population around Rapid City, agriculture still plays a vital role in the city’s economy. According to the 2012 census, there were 599 farms totaling 1,074,103 acres in Pennington County. Livestock accounted for 55% of all farm sales and 76% of farmland in Pennington County was devoted pasture.²

Since Rapid City is the gateway to the Black Hills and its connections to historical and tourist sites, tourism is a vital piece of the city’s economy. Pennington County ranked 1st out of 66 counties in South Dakota for real taxable tourism sales.²

When not working, Rapid City citizens enjoy recreational opportunities at a massive indoor aquatics center and ice rink, cultural events and entertainment at Rushmore Plaza Civic Center, collections from four museums under one roof at the Journey Museum, and artistic expression at the Dahl Fine Arts Center.¹

² Black Hills Knowledge Network “Rapid City Civic Life and History”
³ South Dakota School of Mines and Technology “Our History”
The South Dakota School of Mines & Technology prepares leaders in engineering and science to face the challenges of the twenty-first century. Founded in 1885 in the Rushmore Region, South Dakota Mines is an exceptional engineering and science university with graduates enjoying excellent placement rates and high starting salaries.

The university enrolls over 2,800 students, offering a range of bachelor’s, master’s, and doctoral degrees. Ranked one of “America’s Best College Buys” for eighteen years straight, South Dakota Mines was also ranked first in the nation for return on investment by the Wall Street Journal and in the top ten “Best for Vets: Colleges” by the Military Times. Five professors have been named U.S. Carnegie Professor of the Year for the state of South Dakota, a prestigious award for educators.

CHALLENGING ACADEMICS
There are no easy degrees at South Dakota Mines. We prepare graduates to tackle the most difficult challenges of the 21st century. We educate students to a high standard in a wide array of engineering and science disciplines.

PERSONAL ATTENTION
With a 15-to-1 student-to-faculty ratio, our average undergraduate class size is less than 25 students. At Mines, we don’t let graduate students teach. Professors teach. This focus on excellence in face-to-face undergraduate education is increasingly rare in American universities and is one of the things that makes Mines different.

GREAT VALUE
South Dakota Mines has been named one of the best values in higher education for 18 years straight. For the most recent graduating class, 98 percent are going to graduate school or have secured employment at an average starting salary of over $63,000 a year. That’s better than Harvard at a fraction of the cost.

INTERNSHIPS
Our internship program is a hallmark of the Mines experience. 75 percent of students have had at least one paid internship before they graduate, giving them a competitive edge in the job market. Last summer alone, students earned internships with
over 240 different employers in 39 states at over $17 an hour. About 15 percent of students have paid research positions before graduation, including at the world’s flagship dark matter research project a mile underground at the Sanford Underground Research Facility in Lead, South Dakota.

RUSHMORE REGION
Located on a 118-acre campus in the Rushmore Region in the beautiful Black Hills of South Dakota, we enjoy the climate of Colorado Springs with an outdoor playground at our doorstep for hiking, biking, skiing, or rock-climbing, when we’re not enjoying the restaurants and tourist town vibe of Rapid City. With over 100 clubs and organizations and 12 NCAA Division II athletic teams, there is something for everyone at Mines. Just a six-hour drive from Denver and with direct flights to Minneapolis, Denver, Houston, Dallas, Phoenix, and Las Vegas, it’s closer than you think.

DEPARTMENT OF COMPUTER SCIENCE
The speed of innovation and complexity of problems in the world our graduates are entering is staggering. The iPhone is more powerful than the computers that put a man on the moon. As a global competition, the ICPC raises the performance of tomorrow’s problem-solvers, testing the limits of their teamwork, skills, and strengths.

A seven-time competitor in the ICPC World Finals, South Dakota Mines has project-based curriculum and exceptional faculty in software development, robotics, communications, sensors, control systems, and signal processing.

With a placement rate of 100 percent for the past ten years, our computer science graduates go to work for global giants like Microsoft, Google, Netflix, Amazon, HP, IBM, Intel, Raytheon, Los Alamos National Laboratory, EchoStar, and L-3 Communications and regional leaders like Black Hills Corporation, Innovative Systems, Raven Industries, DocuTap, and Golden West.

Mines also offers minors in computational statistics, computer science, mathematics, and robotics, and a master’s degree in computational sciences and robotics. The computer science program is accredited by the Computing Accreditation Commission of ABET.
Jo Perry
NORTH CAROLINA STATE UNIVERSITY

*Director of Judging since 2010*

Our aim as judges is to challenge you for 5 straight hours. We hope you will not only excel but also delight in that challenge. The best of luck and the best of times to all of you!

John Bonomo
WESTMINSTER COLLEGE

*World Finals Chief Judge since 2010; World Finals Judge since 2002*

Enjoy yourself! Think about it: someone else has paid for you to travel around the world in order for you to do something you love. Opportunities like this don’t happen often, so make the most of it!

Per Austrin
KTH ROYAL INSTITUTE OF TECHNOLOGY, STOCKHOLM

*World Finals Judge since 2008*

Here is a small hint about the problem set: hvs qcbhsgdh df-cpzsag ofs bch og sogm og hvwg Qosgof qwdvsf.
Babak Behsaz  
GOOGLE  
*World Finals Judge since 2013*

I hope you enjoy the contest and problem set. Also, I wish for you to realize your potential and use this experience to achieve future success. Best of luck!

Josse van Dobben de Bruyn  
LEIDEN UNIVERSITY  
*First time World Finals Judge*

Don’t be stuck on a single problem for hours on end. There are about a dozen problems to choose from! At the risk of stating the obvious: be sure to actually read them all.

Good luck!

Michael Goldwasser  
SAINT LOUIS UNIVERSITY  
*World Finals Judge since 2015*

As for wishes I have for the contestants: First and foremost, my hope is that contestants celebrate their accomplishments in getting this far and have a wonderful experience.

Of course, I also hope they find success in solving our problems!
Congratulations on making it to the ICPC World Finals.
Being here is a great opportunity for you not only to show your skills and have fun, but also to meet people and grow.

Good luck in the competition!

Martin Kacer  
CZECH TECHNICAL UNIVERSITY  
World Finals Judge since 2003  

Have fun and enjoy this week as if it was one of the best in your life.

Wait, it really is one of the best in your life!

I wish you a good luck, not only for now, but also for the future.
Derek Kisman  
**ZENEFITS**  
*World Finals Judge since 2004*  
As for “advice,” I’d say “Never stop honing your skills!”

Shahriar Manzoor  
**SOUTHEAST UNIVERSITY & CODEMARSHAL**  
*World Finals Judge since 2003*  
In my understanding the bigger motto of ICPC is winning hearts, not winning contests. So yes, winning contests will make you feel good, but if you can work for betterment of other contestants you will feel even better. Good luck!!

Bruce Merry  
**SKA SOUTH AFRICA**  
*World Finals Judge since 2016*  
Don’t rush the problems. It’s better to spend an extra 10 minutes to do it right than lose an hour to debugging.
Matthias Ruhl  
ACCOMPANI  
*World Finals Judge since 1997*

Good luck in the contest! Don’t let the code bugs bite. And the best wishes for your future careers! This in an exciting time to be in computer science – learn as much as you can, build something great and change the world!

Bob Roos  
RETIRRED FROM ALLEGHENY COLLEGE  
*World Finals judge 1996-2012 & 2017*

Meet and talk to as many people as you can! Take lots of photos! Tweet, post, and blog about your experiences! Be proud – after all, you worked hard to get here. But also be humble. Lots of people helped you – your teachers, your coaches, your teammates, and many, many others. Good luck in the contest, but remember that you’re already a winner!

Dick Rinewalt  
TEXAS CHRISTIAN UNIVERSITY  
*World Finals Judge since 1982*

Meet people. Make friends. Have fun.
Stanley Wileman
UNIVERSITY OF NEBRASKA - OMAHA

World Finals Judge since 1979

I've been involved with the contest in many roles since the mid 1970s. And while the machines have certainly gotten faster since the punched card days, the problems have gotten much harder. It's ALWAYS the case that judges know the fastest (to date) algorithms to solve problems, and brute force is almost NEVER the best way (although...). Compilers can optimize your code only so much. Wouldn't it be nice if they could choose better algorithms for us?

Jakub Onufry Wojtaszczyk
GOOGLE

World Finals Judge since 2011

I wish every one of you that this is only a start to achieving great things.

Computer science is cool, because once you write a program, it can change the life of billions of people without any extra work. So, a software engineer can change the world similarly to great inventors – by improving the lives of people they will never meet and never know. Skill at creating software is something that should be cherished and used – I hope each of you manages to make good use of it.
2017 WORLD FINALS
TEAMS
North America
25 teams, 2 countries

133 teams from 6 global regions
Total Number of Countries: 44
ACM-ICPC World Finals 2017
Rapid City
Finalist Teams

Europe
32 teams, 15 countries

Asia
45 teams, 14 countries

Africa and the Middle East
10 teams, 3 countries

South Pacific
2 teams, 1 country
Africa and the Middle East

Al-Baath University
http://www.albaath-univ.edu.sy
Team name: NoNameFoundException
Malek Hakki
Hussain Hussain
Marsil Zakour
Coach: Majd Akleh

Arab Academy for Science and Technology (Alexandria)
http://www.aast.edu
Team name: DebugMyHair
Walid Ghallab
Ahmed Salem Ezzat Salem Hegazi
Youssef Salama
Coach: Mohamed Abd El-Wahab

Cairo University - Faculty of Computers and Information
http://www.fci.cu.edu.eg
Team name: s2++; Returns
Ahmed Hamed
Mohammed Khairy
Mohammad Yasser
Coach: Mohamed Abd El-Wahab

Damascus University
http://www.damascusuniversity.edu.sy
Team name: Y!
Ahmad Gafer
Mohammad Shahhoud
Said Sryheni
Coach: Ghassan Khazaal

Faculty of Computer and Information Sciences, Ain Shams University
http://cis.asu.edu.eg
Team name: TsukeenamiElRashidy
Nour ElRashidy
Ahmed Ossama
Khaled Swalem
Coach: Ahmed Abd El-Mohsen Hassan

Faculty of Engineering (at Shoubra), Benha University
http://www.febu.edu.eg
Team name: The Unlooked-for
Mahmoud Sayed
Noureldin Yosri Yehia Ahmed
Mohamed Zain
Coach: Mohamed Abd El-Wahab

German University in Cairo
http://met.guc.edu.eg
Team name: balabizoo
Mohamed Ahmed
Ahmad Elsagheer
Mohamed Nasser
Coach: Slim Abdennadher

The American University in Cairo
http://www.cs.aucegypt.edu
Team name: BitsPlease
Bishoy Boshra Labib Girgis
Youssef Khairalla
Omar Nasr
Coach: Mohamed Abd El-Wahab

The American University in Cairo
http://www.cs.aucegypt.edu
Team name: TsukeenamiElRashidy
Nour ElRashidy
Ahmed Ossama
Khaled Swalem
Coach: Ahmed Abd El-Mohsen Hassan

Tishreen University
http://www.tishreen.edu.sy
Team name: NCD#1
Zeinalabeedin Ali
Fudail Hasan
Anas Khaddour
Coach: Hussain Kara Fallah

University of Cape Town
http://www.uct.ac.za
Team name: If Cats Programmed Computers
Kieren Davies
Guy Paterson-Jones
Robin Visser
Coach: Maria Keet
Asia

Bangladesh University of Engineering and Technology
http://www.buet.ac.bd
Team name: BUET Rayo
   Tanmoy Mollick
   M M Harun Ur Rashid
   Nazmur Rashid
Coach: Mohammad Kaykobad

Beihang University
http://ev.buaa.edu.cn
Team name: TDL
   Zhouyang Li
   Ziyuan Liu
   Jingzhe Tang
Coach: You Song

Beijing Institute of Technology
http://www.bit.edu.cn
Team name: BIT_Crocodile
   Chengying Huan
   Xinyu Ma
   Ying Sun
Coach: Jiehao Chen

Beijing Normal University
http://www.bnu.edu.cn
Team name: SaltyFish
   Hechuan Guo
   Weiqiang He
   Yaohui Zeng
Coach: Su Feng

Beijing University of Posts and Telecommunications
http://www.bupt.edu.cn
Team name: BUPT_Caicai_Musketeers
   Hao Cui
   Qiyu Ren
   Tianxiao Tang
Coach: Ya Yang

Bina Nusantara University
http://www.binus.ac.id
Team name: gungnir
   Albert Darmawan
   Willson Wijaya
   Rafael Herman Yosef
Coach: Felix Jingga

Chennai Mathematical Institute
http://www.cmi.ac.in
Team name: thirdfloor
   Sreejata Kishor Bhattacharya
   Rajat De
   Anish Prasad Sevekari
Coach: Narayan Kumar Krishnan

Chulalongkorn University
http://www.chula.ac.th
Team name: CPCU Debuggers
   Phirasit Chraroenchitseriwong
   Methus Kiatchaiwat
   Thanapat Saittagaroon
Coach: Athasit Surarerks

Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar
http://www.daiict.ac.in/daiict/index.html
Team name: FruitSalad
   Yash Kumar
   Kuldeep Patel
   Sumeet Varma
Coach: Rahul Muthu

Fudan University
http://www.fudan.edu.cn
Team name: Wood Cube
   Xi Gao
   Zhihao Ma
   Dongjian Tang
Coach: Weiwei Sun

Fuzhou University
http://www.fzu.edu.cn
Team name: HDU-SupportOrNot
   Peng Chen
   Songyang Chen
   Lihao Nan
Coach: Yanggeng Fu

Hangzhou Dianzi University
http://www.hdu.edu.cn
Team name: HDU-SupportOrNot
   Peng Chen
   Songyang Chen
   Lihao Nan
Coach: Chunying Liu
Indian Institute of Technology – Bombay
http://www.iitb.ac.in
Team name: Rocket
Venkateswara Rao Chippada
Mohammed Owais Khan
Sai Sandeep
Coach: Ganesh Ramakrishnan

Indian Institute of Technology – Indore
http://www.iiti.ac.in
Team name: Survivor
Utkarsh Saxena
Harshil Shah
Aditya Shah
Coach: Abhishek Srivastava

Indian Institute of Technology – Kanpur
http://www.iitk.ac.in
Team name: FacelessMen
Atanu Chakraborty
Shaswat Chaubey
Sahil Grover
Coach: Satyadev Nandakumar

International Institute of Information Technology - Bangalore
http://www.iitb.ac.in
Team name: How you doing
Simran Dokania
Shyam Komini Babu
Aditya Paliwal
Coach: Muralidhara Vaddarahalli Narasimha Moorthy

International Institute of Information Technology – Hyderabad
http://www.iit.ac.in
Team name: mobius_treap
Tanuj Khattar
Sriram Narayanan
Rajas Vanjape
Coach: Venkatesh Choppella

Jahangirnagar University
http://www.juniv.edu
Team name: JU_Circavex
Bir Bahadur Khatri
Raihat Zaman Neloy
Md Sahedul Islam Sohel
Coach: Mohammad Shorif Uddin

KAIST
www.kaist.ac.kr
Team name: hYEAHyea
Hanpil Kang
Jihoon Ko
Jongwon Lee
Coach: Sung Yong Shin

Keio University
http://www.keio.ac.jp
Team name: Running
Kento Nikaido
Naoya Niwa
Tetsui Ohkubo
Coach: Shingo Takada

National Institute of Technology, Karnataka
http://www.nitk.ac.in
Team name: code_phoenix
Yogesh Ghaturle
Ajinkya Parab
Prabhu Sahoo
Coach: Manu Basavaraju

National Taiwan University
http://www.ntu.edu.tw
Team name: AcThPaUNpPuAmCmBkCfEsFmMdNoLr
Cheng-Min Chiang
Kai-Chi Huang
Han Chung Wang
Coach: Pu-Jen Cheng

National University of Singapore
http://www.nus.edu.sg
Team name: TeamTam
Agus Sentosa Hermawan
Si Wei How
Muhammad Rais Fathin Mudzakir
Coach: Sun Teck Tan

Northeastern University (China)
http://www.neu.edu.cn
Team name: Three Retired Doge
Sitan Gao
Hengyu Liu
Haibin Xie
Coach: Xiaofeng Liu
Peking University
http://www.pku.edu.cn
Team name: Red Queen
  Tiankui Guo
  Rui Ji
  Wentao Wang
Coach: Guojie Luo

Seoul National University
http://www.snu.ac.kr
Team name: ACGTeam
  Seokhwan Choi
  Seunghyeon Jo
  Jeehak Yoon
Coach: Heon Young Yeom

Shahid Beheshti University
http://en.sbu.ac.ir
Team name: Dog Nine
  Erfan Alimohammadi
  Mohammad Nasirifar
  Yones Rezaei
Coach: Mojtaba Vahidi-Asl

Shanghai Jiao Tong University
http://www.sjtu.edu.cn
Team name: New Meta
  Yu Gao
  Wenhao Li
  Wenda Qiu
Coach: Yong Yu

Shanghai University
http://www.shu.edu.cn
Team name: Wand Maker
  Liangbo Chen
  Yingning Gao
  Yi Xu
Coach: Yunfu Shen

Sharif University of Technology
http://www.sharif.edu
Team name: CrockPot
  Ali Haghani
  Peyman Jabbarzade Ganje
  Amir Keivan Mohtashami
Coach: Kamran Bavar

South China University of Technology
http://www.scut.edu.cn
Team name: doubility
  Zhenkun Cai
  Wenjian Lv
  Jingwei Zhang
Coach: Chuhua Xian

The Chinese University of Hong Kong
http://www.cse.cuhk.edu.hk
Team name: The Descendant of Siuwah
  Chun Yin Sampson Lee
  On Yin Leung
  Kam Chuen Tung
Coach: Siu On Chan

The University of Tokyo
http://www.u-tokyo.ac.jp
Team name: Cxiv-Dxiv
  Kazumi Kasaura
  Soh Kumabe
  Kohji Liu
Coach: Tomoyuki Kaneko

Tokyo Institute of Technology
http://www.titech.ac.jp
Team name: po
  Ngoc Khanh Do
  Hiroki Katsumata
  Kohei Morita
Coach: Kenta Isozuka

Tsinghua University
http://www.tsinghua.edu.cn
Team name: Deep Dark Fantasy
  Lijie Chen
  Yuhao Du
  Ce Jin
Coach: Xiaojun Wu

Universitas Indonesia
http://www.ui.ac.id
Team name: Awrakin
  Rakina Zata Amni
  Muhammad Ayaz Dzulfikar
  Zamil Majdy
Coach: Denny
University of Aizu
http://www.u-aizu.ac.jp
Team name: 575.cpp
Kazuya Watanabe
Tadamasa Yamaguchi
Takumi Yamashita
Coach: Yutaka Watanobe

University of Dhaka
http://www.du.ac.bd
Team name: DU_Censored
Rezwan Mahmud
Shahed Shahriar
Sabit Anwar Zahir
Coach: Tamal Adhikary

University of Electronic Science and Technology of China
http://www.uestc.edu.cn
Team name: UESTC_Life_and_Lemons
Zhu He
Weibo Lin
Yetao Wang
Coach: Peng Yang

University of Engineering and Technology – VNU
http://e.uet.vnu.edu.vn
Team name: LINUX
Duy Nguyen
Van Hanh Pham
Minh Phan Duc Nhat
Coach: Ho Dac Phuong

University of Management and Technology
http://umt.edu.pk
Team name: The Stars
Syed Zeshan Ali
Awab Ahmad Khan
Abdul Rehman
Coach: Nabeel Khan

University of Tehran
http://www.fos.ut.ac.ir
Team name: NeshesTeam
Abtin Bateni
Shayan Hosseini
Navid RahimiDanesh
Coach: Amirhossein Shapori

University of the Philippines – Diliman
http://upd.edu.ph
Team name: Quiwarriors
Williard Joshua Jose
Marco Vincenzo Karaan
Rene Josiah Quinto
Coach: Fidel Nemenzo

Wuhan University
http://www.whu.edu.cn
Team name: pied piper
Yaolin Chen
Jianren Li
Jinghao Lu
Coach: Wenyong Dong

Zhejiang University
http://www.zju.edu.cn
Team name: Siunaus
Mengge Jin
Xiajun Wang
Yueqi Zhao
Coach: Can Wang
Europe

Belarusian State University of Informatics and Radioelectronics
http://www.bsuir.by
Team name: Belarusian SUIR #2
   Andrei Sobal
   Andrei Valchok
   Aliaksei Vistiagh
Coach: Aliaksei Ropan

École Normale Supérieure de Paris
http://www.ens.fr
Team name: ENS Ulm
   Rafaël Bocquet
   Nathanaël Courant
   Tomas Rigaux
Coach: Hadrien Barral

ETH Zürich
http://www.ethz.ch
Team name: rETHink again
   Demjan Grubić
   Martin Raszyk
   Daniel Rutschmann
Coach: Johannes Kapfhammer

Jagiellonian University in Krakow
http://www.uj.edu.pl
Team name: Jagiellonian
   Vladyslav Hlembotskyi
   Krzysztof Maziarz
   Michał Zajęc
Coach: Pawel Idziak

KTH - Royal Institute of Technology
http://www.kth.se
Team name: Omogen Heap
   Simon Lindholm
   Johan Sannemo
   Mårten Wiman
Coach: Marc Vinyals

Lviv National University
http://franko.lviv.ua
Team name: LNU AlgoTesters
   Andrii Makar
   Volodymyr Radiuk
   Taras Savitskyi
Coach: Vitalii Herasymiv

Moscow Institute of Physics & Technology
http://www.mipt.ru
Team name: Moscow IPT: Jinotega
   Konstantin Semenov
   Ivan Smirnov
   Artsem Zhuk
Coach: Mikhail Tikhomirov

Moscow State University
http://msu.ru
Team name: Moscow SU: Last Hope
   Nikita Bagrov
   Denis Kupliakov
   Ivan Lakhtanov
Coach: Andrey Shestimerov

National Research University Higher School of Economics
http://www.hse.ru/lingua/en
Team name: NRU HSE: Random Shuffle
   Roman Aleksandrov
   Andrei Kashin
   Nikita Zetilov
Coach: Mikhail Gustokashin

Novosibirsk State University
http://www.nsu.ru
Team name: Novosibirsk SU
   Pavel Smirnov
   Nikolay Viktorov
   Roman Vishnevskii
Coach: Stepan Gatilov

Perm State University
http://www.psu.ru
Team name: Perm SU: Indigenous
   Ilya Kuchumov
   Mikhail Mayorov
   Bohdan Pryshchenko
Coach: Mikhail Rubinchik

Petrozavodsk State University
http://www.petsu.ru
Team name: Petrozavodsk SU 1
   Valentin Ermishin
   Valeriy Filev
   Svyatoslav Starkov
Coach: Alexander Fedulin
POLITEHNICA University of Bucharest
http://www.pub.ro
Team name: TeamName
    Cristian Banu
    Stefan Adrian Popa
    Radu Silviu Visan
Coach: Traian Rebedea

Samara National Research University
http://en.ssau.ru
Team name: Haters
    Denis Bezrukov
    Vyacheslav Muravjiev
    Egor Ponomarev
Coach: Andrey Gaidel

Saratov State University
http://sgu.ru
Team name: Saratov State University 2
    Roman Kiriev
    Alexey Ripinen
    Oleg Smirnov
Coach: Michael Mirzayanov

St. Petersburg Academic University
http://www.spbau.ru/main_eng/info_main_eng
Team name: SPb AU 3: Bandity
    Vsevolod Stepanov
    Nikolay Zhidkov
    Mikhail Zuev
Coach: Sergey Kopeliovich

St. Petersburg ITMO University
http://en.ifmo.ru
Team name: SPb ITMO University 1
    Ivan Belonogov
    Vladimir Smykalov
    Ilya Zban
Coach: Andrey Stankevich

St. Petersburg State University
http://eng.spb.ru
Team name: SPb SU Base
    Stanislav Ershov
    Igor Pyshkin
    Aydar Sayranov
Coach: Andrei Lopatin

Taras Shevchenko National University of Kyiv
http://www.univ.kiev.ua
Team name: The Alphas
    Vasyl Antoniuk
    Mykhailo Chornyi
    Ivan Zdomskyi
Coach: Vitalii Bondarenko

TOBB University of Economics and Technology
http://www.etu.edu.tr
Team name: LogicError
    Mehmet Murat Akburak
    Mustafa Erdem Kirez
    Onur Yildiz
Coach: Osman Abul

Tomsk Polytechnic University
http://www.tpu.ru
Team name: Tomsk PU 1
    Olesya Golub
    Nicolay Kuzivanov
    Alexey Vetrov
Coach: Pavel Khaustov

University of Bucharest
http://www.unibuc.ro
Team name: Echipa Lacheta
    Mihai Nitu
    Eugenie Daniel Posdarascu
    Alexandru Velea
Coach: Mihai Calancea

University of Helsinki
http://www.helsinki.fi/university
Team name: Game of Nolife
    Otte Heinävaara
    Olli Hirviniemi
    Tuukka Korhonen
Coach: Topi Talvitie

University of Latvia
http://www.lu.lv
Team name: LU 1
    Andrejs Kuznecovs
    Peteris Pakalns
    Aleksejs Zajakins
Coach: Guntis Arnicans
<table>
<thead>
<tr>
<th>University of Oxford</th>
<th>Ural Federal University</th>
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<tr>
<td>Team name: Catz CS Society</td>
<td>Team name: Ural FU: Charmander</td>
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<tr>
<td>Mihail Jianu</td>
<td>Kirill Borozdin</td>
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<td>Sauyon Lee</td>
<td>Aleksei Kungurtsev</td>
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<td>Hristo Venev</td>
<td>Vladimir Leskov</td>
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<td>Team name: Warsaw Eagles</td>
<td>Team name: UzhNU_MagicalPony</td>
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<tr>
<td>Wojciech Nadara</td>
<td>Yehor Bobyk</td>
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<td>Marcin Smulewicz</td>
<td>Sergii Nagin</td>
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<td>Marek Sokołowski</td>
<td>Taras Novokhatskyi</td>
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<td>Coach: Jan Madey</td>
<td>Coach: Oleksandr Mitsa</td>
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<td>Team name: UWr1</td>
<td>Team name: VU #1</td>
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<tr>
<td>Paweł Michalak</td>
<td>Domantas Jadenkus</td>
</tr>
<tr>
<td>Tomasz Syposz</td>
<td>Justas Klimavičius</td>
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<tr>
<td>Michał Łowicki</td>
<td>Vytautas Traškevičius</td>
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<td>Coach: Krzysztof Loryś</td>
<td>Coach: Vladas Tumasonis</td>
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<td>Team name: Zagreb</td>
<td>Team name: Yerevan SU 1</td>
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<tr>
<td>Mislav Balunović</td>
<td>Hrayar Harutyunyan</td>
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<td>Domagoj Bradač</td>
<td>Tigran Mamikonyan</td>
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<td>Marin Tomić</td>
<td>Albert Sahakyan</td>
</tr>
<tr>
<td>Coach: Krešimir Malnar</td>
<td>Coach: Armen Andreasyan</td>
</tr>
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Latin America

Facultad de Ciencias-Universidad Nacional Autónoma de México
http://www.fciencias.unam.mx
Team name: PU++
   Luis Enrique Chacón Ochoa
   Jorge Fernández Hidalgo
   Santiago Ley Flores
Coach: Manuel Alcantara Juárez

Instituto Tecnológico Autónomo de México
http://www.itam.mx
Team name: Los Románticos
   Demian Espinosa Ruiz
   Freddy Román Cepeda
   Diego Terán Ríos
Coach: Rafael Gamboa

Pontificia Universidad Católica del Perú – FCI
http://www.pucp.edu.pe
Team name: O(1) O(n) O(u(n))
   Jesús Espino
   Rodrigo Manuel Horruitiner Mendoza
   Paul Luyo Carbonero
Coach: Jesús Peña

Universidad Autónoma de Nuevo Leon
http://www.uanl.mx
Team name: Los A’S
   Víctor Hugo Antonio De La Fuente Jimenez
   Ángel Domínguez
   José Tapia
Coach: María Chávez

Universidad de Buenos Aires – FCEN
http://exactas.uba.ar
Team name: PUMMAS
   Miguel Maurizio
   Sebastián Prillo
   Alfredo Umfrurer
Coach: Agustín Santiago Gutierrez

Universidad de Chile
http://www.dcc.uchile.cl
Team name: El equipo de Paulsen
   Robinson Castro
   Juan Pablo Paulsen Casanueva
   Javier Valdés
Coach: Jorge Perez

Universidad de La Habana
http://www.uh.cu
Team name: UH++
   Ariel Cruz Cruz
   Marcelo Fornet Fornes
   Eloy Pérez Torres
Coach: Alfredo Somoza Moreno

Universidad de Pinar del Río
http://www.upr.edu.cu
Team name: sUrPRise
   Manuel Alejandro Díaz Pérez
   Elio Alejandro Govea Aguilar
   José Guerra Carmenate
Coach: Luis Manuel Díaz Barón

Universidade Estadual de Campinas
http://www.ic.unicamp.br
Team name: Veni Vidi Codi
   Guilherme Bueno Andrade
   Arthur Pratti Dadalto
   Matheus de Souza Ataide
Coach: Fábio Luiz Usberti

Universidade Federal da Bahia
http://www.ufba.br
Team name: Robério e Seu Teclado
   Guilherme Bernal
   Roberto Caldeira
   Jonathan Queiroz
Coach: Maurício Pamplona Segundo

Universidade Federal de Campina Grande
http://www.ufcg.edu.br
Team name: !xor&!
   Victor Andrade de Almeida
   Ordan Silva Santos
   Lucas de Matos Figueredo
Coach: Rohit Gheyi

Universidade Federal de Itajubá - Campus Itajubá
http://www.unifei.edu.br
Team name: Epic Sax Guys
   José Wagner de Andrade Júnior
   Fúlvio Abraão Paula
   Thiago de Carvalho Pinto
Coach: Roberto Costa
Universidade Federal de Pernambuco  
http://www.cin.ufpe.br  
Team name: 0xE  
Lucas Almeida Pereira de Lima  
Duhan Caraciolo  
Mário Henrique da Silva  
Coach: Katia Guimarães

Universidade Federal do Rio Grande do Norte  
http://www.ufrn.br  
Team name: Ginga com Tapioca  
Railton Calheiros  
Hélio Duarte  
Victor Lima  
Coach: Sérgio Medeiros

Universidad Mayor de San Simon – Sistemas  
http://www.umss.edu.bo  
Team name: team.getAnotherName()  
Alex Cardona Siles  
Miguel Diaz Iturry  
Javier Eduardo Ojeda Jorge  
Coach: Leticia Blanco Coca

Universidad Nacional de Colombia – Bogotá  
http://www.unal.edu.co  
Team name: UNBounded  
Ivan Castellanos  
Jaime Andrés Silva Velosa  
Christian Mauricio Zuluaga Mora  
Coach: Diego Ivan Caballero Rodríguez

Universidad Nacional de Córdoba – FaMAF  
http://www.famaf.unc.edu.ar  
Team name: Gracias Demetrio  
Luis Ferroni Rivetti  
Matías José Hunicken Berardo  
Martin Rodríguez  
Coach: Matías Tealdi

Universidad Nacional de Rosario  
http://www.unr.edu.ar  
Team name: You’ve gone incognito :$  
Ivan Diaz  
Brian Morris Esquivel  
Maximiliano Redigonda  
Coach: Pablo Zimmermann

Universidad Simón Bolívar  
http://www.usb.ve  
Team name: O(-1)  
Jose Acevedo  
Augusto Hidalgo  
Rubmary Rojas  
Coach: Ricardo Monascal
North America

Cedarville University
http://www.cedarville.edu
Team name: Cedarville Blue
Jonathan Easterday
Nathan Harold
Timothy Smith
Coach: Dave Gallagher

Cornell University
http://www.cornell.edu
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Matthew Gharrity
Dragos-Florian Ristache
Ioana-Maria Tamas
Coach: Victor Reis

Iowa State University
http://www.iastate.edu
Team name: Team.getName()
Ian Gottshall
Jacob Perin
Yuxiang Zhang
Coach: Simanta Mitra

Massachusetts Institute of Technology
http://web.mit.edu
Team name: MIT ONE
Yuzhou Gu
Haoran Xu
Yinzhan Xu
Coach: Aleksandar Zlateski

Mount Allison University
http://www.mta.ca
Team name: MTA Team Alpha
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Thomas Lidbetter
Micah Stairs
Coach: Liam Keliher

Northwestern University
http://northwestern.edu
Team name: WildWildCats
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Yiding Feng
Ruohong Zhang
Coach: Goce Trajcevski

Princeton University
http://www.princeton.edu
Team name: Princeton
Kalina Petrova
Eric Schneider
Victor Xu
Coach: Hector Solis

South Dakota School of Mines and Technology
http://www.sdsmt.edu
Team name: SDSMT Hardrockers
Matthew Dyke
Alexander Iverson
Matthew Schallenkamp
Coach: Larry Pyeatt

The University of South Dakota
http://www.usd.edu
Team name: Roadrunners
Ben Erickson
Mitchell Peterson
Kurtis Van Gent
Coach: Doug Goodman

The University of Texas at Austin
http://www.utexas.edu
Team name: UT White
Supawit Chockchowwat
Alex Meed
Brian Richer
Coach: Etienne Vouga

University of Alberta
http://www.ualberta.ca
Team name: Alberta Gold
Morgan Redshaw
Yunpeng Tang
Noah Weninger
Coach: Zachary Friggstad

University of British Columbia
http://www.ubc.ca
Team name: UBC*
Jason Chiu
Yuanchen Du
Lucca Siaudzionis
Coach: Paul Liu
University of California at Berkeley
http://www.berkeley.edu
Team name: Berkeley Blue
Ruichao Chen
Evan Limanto
Keyhan Vakil
Coach: Paul Hilfinger

University of California Irvine
http://www.uci.edu
Team name: filter
Liangjian Chen
Pasha Khosravi
Waitaya Krongapiradee
Coach: Richard Pattis

University of California Los Angeles
http://www.ucla.edu
Team name: Bruins
Jerry Li
Konstantin Miagkov
Andy Shih
Coach: Walter Qian

University of Central Florida
http://www.ucf.edu
Team name: UCF Knights
Timothy Buzzelli
Alexander Coleman
Joshua Linge
Coach: Ali Orooji

University of Illinois at Urbana-Champaign
http://illinois.edu
Team name: Time Limit Exceeded
Yewen Fan
Tong Li
Yuting Zhang
Coach: Uttam Thakore

University of Maryland
http://www.cs.umd.edu
Team name: UMDblack
Mahsa Derakhshian
Shuhao Tan
Hadi Yami
Coach: Mohammadtaghi Hajiaghayi

University of Michigan at Ann Arbor
http://www.umich.edu
Team name: Victors
Curtis Fenner
Nathan Fenner
Tianci Wang
Coach: Kevin Compton

University of Pennsylvania
http://www.upenn.edu
Team name: UPENN RED
Zhan Xiong Chin
Rodrigo Ornelas Vargas
Arman Tokanov
Coach: Sanjeev Khanna

University of Rochester
http://www.rochester.edu
Team name: YellowJackets
Jackson Abascal
Zachary Polansky
Daniel Rubery
Coach: Daniel Stefankovic

University of Waterloo
http://www.uwaterloo.ca
Team name: Waterloo Royal Blue
Jacob Jackson
Yi Kuan Li
Antonio Molina Lovett
Coach: Troy Vasiga

University of Wisconsin – Madison
http://www.wisc.edu
Team name: Chang
Krittisak Chaiyakul
Ingkarat Rak-amnouykit
Songwong Tasneeyapant
Coach: Dieter van Melkebeek

Virginia Tech
http://www.cs.vt.edu
Team name: PriorityQueues for President
Andriy Katkov
Peter Steele
Christopher Wu
Coach: Godmar Back

Washington University in St. Louis
http://www.wustl.edu
Team name: Indigo
Pengning Chao
Sam Heil
Joseph Woodson
Coach: Dennis Cosgrove
South Pacific

**Monash University**
http://www.monash.edu.au
Team name: BuildAFirewall
- Daniel Anderson
- Xin Wei Chow
- Peter Whalan
Coach: Darcy Best

**University of New South Wales**
http://www.cse.unsw.edu.au
Team name: AbishforesT
- Oliver Fisher
- Mohammad Huda
- Ray Li
Coach: Aleks Ignjatovic
LET THEM SEE
YOU SOLVE
ICPC\LIVE.COM
MAY 24
15:00 UTC
AWARDS
The 2017
ICPC Outstanding
International Contribution
Award

PRESENTED TO:

State of South Dakota
Excellence in Computer Programming, Inc.

South Dakota School of Mines and Technology

City of Rapid City

For serving as principal partners in hosting the 2017 World Finals and advancing excellence in computing in support of the ICPC for decades.

The ICPC Outstanding International Contribution Award (OICA) is presented to an individual or group that has played an instrumental role in the success of international educational programs for five or more years.
The 2017 ICPC Outstanding International Service Award

PRESENTED TO:

BAYLOR UNIVERSITY
OFFICE OF THE PROVOST

For academic and institutional support for hosting ICPC Headquarters since 1989 and for encouraging the next generation to develop and apply their problem-solving talents to the challenges that face the world today and the world to come.

The ICPC Outstanding International Service Award is presented annually to an individual, group, or institution who has played an instrumental role in advancing international educational programs that open doors of opportunity for future opportunity creators and problem solvers.

22 MAY 2017 RAPID CITY, SOUTH DAKOTA
The 2017
UPE Distinguished
International Service
Award

PRESENTED TO:

IBM

Jonas Jacobi
Debbie Kilbride  Chris Iijima
John Meegan     Tim deBoer
Chris Hupman    Sergey Belov

For 20 years of outstanding support of ICPC Regional Contests
and the ICPC World Finals enabling the global academic ICPC community
to expand by 2000% to over 2,900 universities in 103 countries on six continents.

The Distinguished International Service Award is presented annually
to an institution or institutions that have played instrumental roles
in the success of international educational programs for ten or more years.
The 2017
James Comer
Distinguished Regional Contest Director Award

PRESENTED TO:

James Comer
Texas Christian University

For advancing excellence in the software arts by serving as Director of Regional Contests since the inception of the role and for serving as South Central Regional Director in the early years of the ICPC. Dr. Comer has served the ICPC community for over forty years.

The James Comer Distinguished Regional Contest Director Award is presented annually to ICPC regional leaders who have played instrumental roles in the success of the International Collegiate Programming Contest for twenty or more years.

22 MAY 2017    RAPID CITY, SOUTH DAKOTA
The 2017
Joseph S. DeBlasi
Outstanding Contribution Award

PRESENTED TO:

Qusi Al-Haj  Edward Corwin  Barbara Dolan  Nancy Gowen  Richard Gowen

Tanya Gray  Paul Hinker  Antonette Logar  Lisa Storms  Karen Whitehead

For building the competitive programming initiative at SDSMT, establishing Excellence in Computing, Inc., and engaging the South Dakota community in support of the 2017 World Finals.

The Joseph S. DeBlasi Outstanding Contribution Award is presented annually to a person or group who has played an instrumental role in the success of the ICPC for five or more years.
The 2017
Mark Measures
Distinguished Service
Award

PRESENTED TO:

Jeff Donahoo
Baylor University

For distinguished service, directing the ICPC information technology infrastructure since 2001, providing developmental support for global CLI Developers since 2002, creating and directing ICPCNews, and serving as the Deputy Executive Director of the ACM International Collegiate Programming Contest and Executive Director of the 2017 World Finals.

The Mark Measures Distinguished Service Award is presented annually to a volunteer who has played an instrumental role in the success of the ACM International Collegiate Programming Contest for fifteen or more years.

22 MAY 2017  RAPID CITY, SOUTH DAKOTA
The 2017
North America
Distinguished Leadership
Award

PRESENTED TO:

Robert Kramer  Charles Isaac Traxler  Kathy Traxler  Maung Htay

Lee Wittenburg

Donna Furon  Kris Rudin  Toni Logar  David Van Brackle  Ryan Stansifer  Warren MacEvoy

Robert Kramer  Charles Riedesel  Isaac Traxler  Kathy Traxler  Maung Htay  Lee Wittenburg

For advancing excellence in the software arts by coaching or staffing, together with organizing and leading ICPC Regionals in North America.

22 MAY 2017        RAPID CITY, SOUTH DAKOTA
The 2017 Asia Highest Honor Award

PRESENTED TO:

Marsha Henderson Poucher
ACM-ICPC Manager 1998-2016

in recognition of service to the communities, industry, academia, and students of computing sciences and engineering in Asia through wholeheartedly helping students and professors in support of the ICPC Asia Community and for

Distinguished Service Support and Management for Asia

The Asia Highest Honor Award is presented to an individual, group, or institution who has played an instrumental role in supporting international educational programs that open doors of opportunity for future opportunity creators, and doing so within the open, encouraging ICPC spirit and problem-solving ideals for the ICPC Asia Community.

22 MAY 2017        RAPID CITY, SOUTH DAKOTA
Jan Madey  
UNIVERSITY OF WARSAW

What is a memorable achievement or moment from your ICPC history?

I think the most memorable moment was our first time winning the World Finals in Beverly Hills in 2003. The event took place during the Oscar Award ceremony and in the same hotel where the actors were staying. Hence a lot of journalists from all over the world came, and they became interested also in ICPC. Some of them were really shocked that we won, some were trying to find the place where the University of Warsaw is located in… the USA. There was a tremendous feed-back in press in the USA and at home where we were even met by the President of Poland.

Ali Orooji  
UNIVERSITY OF CENTRAL FLORIDA

How have you seen ICPC affect your life and/or your students' lives?

The “Programming Competition” is viewed at UCF (University of Central Florida) in much the same way that typical schools in USA view their football program or basketball program. The students train hard and reach for excellence. Many former team members volunteer their time to train the new team members. It is a very enjoyable, satisfying, and rewarding experience. I’ve been honored to be a part of this since 1989 (25+ years).
Glenn Martin
UNIVERSITY OF CENTRAL FLORIDA

Why do you continue coaching ICPC teams?

When it comes down to it, I think it’s the pursuit. The pursuit of growth, the pursuit of excellence, and the pursuit of the win. It is an absolute pleasure to work with students who want to put forth the effort, love the competition, and want to go for winning that championship cup! I have had the wonderful opportunity to work with some of the best, and they will always have a special place in my heart. We have adopted a phrase on the University of Central Florida team: “The bowl cannot be hotter than the soup.” There is nothing better than being the coaching bowl for the team members’ soup.

Yong Yu
SHANGHAI JIAO TONG UNIVERSITY

How have you seen ICPC affect your life and/or your students’ lives?

I feel extremely lucky and privileged to have been the head coach of the ICPC SJTU team since 1996. To be able to find and work with the most intelligent and diligent kids in China is truly a blessing. During these years, my team has qualified for the World Finals 20 times and won 6 gold metals, including 3 first places and 2 second places.

I would like to thank ICPC, for giving us a chance to discover the outside world.

I would like to thank my colleagues and team members, for sticking up for me and growing up together.

I would like to thank each one of you; every meeting is a festival event and leaves happy memories in my mind.
Andrei Lopatin  
ST. PETERSBURG STATE UNIVERSITY

What advice would you give other coaches and contestants?

My advice for contestants and coaches is that the one of the important things needed for successful development of the students is to solve the problems that you did not solve during any competition (practice or online or onsite). The common mistake of some teams is that they do solve only problems that are easy for them during any competition while they forget to try to go forth (because solving a lot of easy problems can take too much time and efforts, too). To go forth, you need to exit this endless loop of something that already became easy for you and to extend the set of things you consider easy. During my more than 20 years of competing and coaching, I’ve seen a lot of tasks and algorithms that, once being considered too hard to even think about giving only one such problem for 5 hours, became the problems that could be easily solved in 10 or 15 minutes. And, my opinion is that the limit is not even nearly reached. Good luck!

Anna Lopatina  
ST. PETERSBURG STATE UNIVERSITY

How have you seen ICPC affect your life and/or your students’ lives?

I think the most exciting thing about ACM ICPC is that the preparation process and all competitions allow excellent students to communicate with each other. They expand their horizons and help new interesting ideas and projects to be born.
Aleksandar Zlateski
MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Why do you continue coaching ICPC teams?

My typical quote is: “Submit, print, repeat”

I keep coaching for the following reasons:
• I really like working with motivated students
• The collaborating nature of ICPC contests is something that teaches very important skills for both the academia and industry
• It’s incredible to see how former contestants continue their careers. They excel in both the academia and industry; it’s hard to pinpoint skills that are as important for both as the ones acquired by participating in ACM ICPC.
• And most importantly (a selfish reason) – I meet a lot of like-minded people from whom I can learn a lot.

Rohit Gheyi
UNIVERSIDADE FEDERAL DE CAMPINHA GRANDE, BRAZIL

Why do you continue coaching ICPC teams?

Students’ desire to learn, passion, and commitment are the reasons for me to continue coaching. It is a pleasure to work with the brightest and most dedicated students. We have a lot of fun organizing contests and training camps.
Mohammad Hajiaghayi
UNIVERSITY OF MARYLAND

Why do you continue coaching ICPC teams?

Given my background in the International Olympiad in Informatics (IOI) and ACM ICPC contests when I was a student myself, it was very natural for me to further participate in ACM ICPC contests this time as a coach. One very important aspect of being a coach is that often I am working with the best and the brightest undergrad and grad students at the University of Maryland (since we often have a call for participation in our selection contest from all over the university). This really gives me energy to work hard with the team(s) such that we can advance to the world finals and do the best performance there. Anytime that we obtain such an achievement it is more than memorable for me.

Guojie Luo
PEKING UNIVERSITY

What is a memorable achievement or moment from your ICPC history?

I will never forget the moment when the PKU team won the gold medal for the first time in the 2014 World Finals at Yekaterinburg. This achievement is a result of the continuing efforts from our team’s founding coach Prof. Wenxin Li (now Asia Beijing Director), Guo Wei (2012 Coach Award) and I. When we were invited to the stage, I instantaneously got many congratulation messages via social networks from all over the world, showing the immense popularity and influence of the ICPC.
Wenyong Dong  
WUHAN UNIVERSITY

What is a memorable achievement or moment from your ICPC history?

In some ways the competition has aroused the contestants’ inner passion towards algorithms and taught them how to analyze, cooperate, and struggle imperceptibly during the progress. All these years, many students of mine have retired from this event and continued their journey of exploring and hacking. Most of them have taken a place in the development of our nation’s (even the world’s) internet projects or have contributed to humanity’s knowledge of computer science. Thanks to ICPC for offering us such a grand ceremony and memory worthy to be treasured. We’re grateful that all of your work has made a big difference to us and has helped us to make a difference in the world.

Nasa Rouf  
UNIVERSITY OF BRITISH COLUMBIA

Why do you continue coaching ICPC teams?

All selfish reasons! It is fun!! There is the life aspect – I get to be around some of the best people in computing, the youngest, smartest, brightest and friendliest. Then there is the work aspect – I have always had an edge in my career in computing thanks to the constant push for collaborative learning and healthy competition. And finally, for a sense of pride and personal fulfillment – coaching ICPC teams serves my interest in contributing back to the ICPC community that nurtured me when I was growing as a contestant myself.
Kresimir Malnar
UNIVERSITY OF ZAGREB

What advice would you give other coaches and contestants?

My first and the most important advice for ICPC contestants is “Have fun!” You are already one of the best competitive programmers at your university, in your country, or maybe even in the world. You started coding many years ago, and you invested so many hours in learning algorithms and solving problems and probably you enjoyed all that time, I hope. Now, choose the members for your team carefully. They have to be exceptional, like you, but choose the people you enjoy having in your presence. If you already have a team but you feel that something is not right, find a new team! Compete a lot! Don’t be sad if your score at the end is not so great. Be happy for others, congratulate the winning team, and go out for some food and drinks after each competition. Your life is already great and will be great. You will earn money for a living by doing things that you love, and you will have a feeling that you don’t work at all. Have a laugh, let your everyday life be full of joy, humor, irony and sarcasm. Be the guy that nobody knows if you are serious or you are kidding. Sometimes, when you have to be serious, embed some joke, even a bad geek joke that only you understand. If nobody smiles, it’s their problem!

Vasyl Biletskyy
LVIV NATIONAL UNIVERSITY

What is a memorable achievement or moment from your ICPC history?

Back in 2008 I won a gold medal at the World Finals as a contestant. That was expected to be my most memorable ICPC achievement. However a few years later I felt even more excited when I got my first medal as a coach.
ICPC QUEST

Compete. Play. Make New Friends!

ICPCQuest is an online game designed for World Finals contestants, coaches, volunteers, and fans to interact with each other and win prizes for top Quest scores!

1. Go to myicpc.icpcnews.com
2. Click Quest in the menu
3. Complete tasks with #ICPC2017
4. Watch the leaderboard and win prizes!

Share and Win

Connect to the conversation.
#ICPC2017
LOCAL INFORMATION

Rushmore Plaza Civic Center
The World Finals will be held in the Rushmore Plaza Civic Center, Rapid City’s premier full-service convention, exhibition and performance complex. Built in 1977 and located in the heart of downtown Rapid City, the Civic Center serves as a hub for visitors who want to explore the historic city center or browse the many shops and museums.

With the World Finals, ChillZone, and meals all under one roof and most accommodations within walking distance, travel time will be minimal. Immediately to the south of the complex is a park through which runs Rapid Creek. A 10-mile bike path along Rapid Creek is enjoyed by walkers, runners, and bikers alike.

Opening and Closing Ceremonies will be held in the 1700+ seat theater. Just down the hallway from the theater is the Lower Rushmore Room where meals will be served.

The World Finals will be held in the newest addition to the complex, the Ice Arena. This facility, completed in 2008, seats 7500 and has eight 20 person suites that offer panoramic views of the arena.

Venue: The Rushmore Plaza Civic Center
Hotels

The **Rushmore Plaza Holiday Inn** features a dramatic atrium with a 60 foot waterfall. Located next to the Rushmore Plaza Civic Center, it is literally steps away from the competition venues. The laid-back rooms with rustic accents offer free Wi-Fi, cable TV, and tea and coffeemakers. Suites add mini fridges, microwaves and whirlpool tubs, in addition to separate living rooms with sofa beds. Room service is available. An informal grill restaurant is set in the atrium. Other amenities consist of a casual bar, a gym, an indoor pool and a hot tub, plus a business center.

The **Rushmore Hotel**, located in the heart of downtown Rapid City and a 10 minute walk to the Rushmore Plaza Civic Center, is an example of a modern, eco-friendly hotel. Much care was given to incorporate the beauty of the natural surroundings of the area into the hotel. The rooms carry an international touch with the vibrant design and color of upscale urban hotels. Tea and coffee-making facilities are provided in each room, along with free Wi-Fi access and a 40-inch flat-screen TV. Guests can exercise in the fitness center or work in the business center. An electric car charging station is available on site. The hotel offers free airport shuttle service to the Rapid City Regional Airport. From the 3 Diamond Enigma Restaurant to the 445 Martini Lounge you’ll find exceptional service as a cornerstone of this hotel’s culture.
The historic **Hotel Alex Johnson**, part of the Curio Collection by Hilton and 0.8 miles south of the Rushmore Plaza Civic Center, has played host to several presidents and celebrities since opening its doors in 1928. Today it combines the charm of the past with modern amenities. This quaint hotel combines the ambiance of the late 1920s with Native American art. Within walking distance are downtown Rapid City and Main Street Square with shops, restaurants, museums, and family activities. Classically decorated rooms offer complimentary Wi-Fi, 42-inch flat-screen TVs and coffeemakers. Suites also provide a microwave and fridge. In the lobby, feed your sweet tooth with a truffle from Chubby Chipmunk Chocolates, and your coffee craving at Starbucks. Enjoy some pub food at Paddy O’Neill’s. Go to the top floor for a spectacular view of Rapid City, signature bar selections and a fine dining menu at Vertex Sky Bar. A free airport shuttle is available.

Expect service with a smile at the **Howard Johnson** in Rapid City. This casual hotel is across the street from the Rushmore Plaza Civic Center and three blocks from downtown. Laid-back rooms come with new pillow-top mattresses, free Wi-Fi, flat-screen TVs, in-room microwaves and refrigerators, and tea and coffeemakers. Suites add sofa beds, and some offer whirlpool tubs and living rooms with fireplaces. Parking is free and there’s a heated indoor pool and a fitness room, as well as 2 hot tubs.
The **BEST WESTERN Ramkota Hotel & Conference Center** in Rapid City, SD, is the upper Midwest’s largest hotel & convention center and will be the location for RCD and CLI events. The hotel features a unique western décor complete with bison, running horses, and livestock, complimented by western family-friendly hospitality.

It is also home to one of the Black Hills’ largest indoor hotel waterparks, which guests may enjoy at no extra charge. The hotel is 2.6 miles from the Rushmore Plaza Civic Center and 10.8 miles from the Rapid City Regional Airport. All of the modern rooms and suites offer free Wi-Fi and flat-screen TVs, plus desks, mini fridges and coffeemakers. Suites add separate living areas, pull-out sofas, whirlpool tubs, balconies and fireplaces. The hotel features free parking and airport shuttle, plus a casual restaurant and bar. Other amenities include a fitness center, indoor pool and separate water park. There are also a business center, meeting and banquet rooms and on-site laundry.
THANK YOU!
Show the world your ICPCID!

ICPCID is an official record of your verified participation as an ACM-ICPC contestant, coach, or volunteer. By default, nobody can see your ICPCID. Activating your ICPCID will allow everybody to see your ICPC history at icpc.baylor.edu. Once activated, you can share your ICPCID URL to show your accomplishments.

Distinguish yourself.

Activate your ICPCID today!

Visit bit.ly/start_ICPCID
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ICPC Manager Assistant
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ICPC Awards Committee
Iakov Dlugach
ICPC Analytics
Josse van Dobben de Bruyn
2017 World Finals Judge
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ICPCNews Producer/Photo Management
Doris Donahoo
ICPC Volunteer
Lisa Donahoo
ICPC Contest Manager
<table>
<thead>
<tr>
<th>Name</th>
<th>Role</th>
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<tr>
<td>Jeff Donahoo</td>
<td>ICPC Deputy Executive Director and Executive Director of 2017 World Finals</td>
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<td>Mickey Donahoo</td>
<td>ICPC Volunteer</td>
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<td>Dorothy Edwards</td>
<td>ICPCNews Video</td>
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<td>Jaap Eldering</td>
<td>ICPC Analytics and Contest Control System</td>
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<td>Roman Elizarov</td>
<td>NEERC Chief Judge and ICPC Live Director</td>
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<td>Taylor First</td>
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<td>Zach First</td>
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<td>Bjarki Ágúst Guðmundsson</td>
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<td>Keith Johnson</td>
<td>ICPC Analytics and Contest Control System &amp; North America Southeast USA Chief of Operations</td>
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<td>Kyungmi Lee</td>
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<td>Kimberly Lewis</td>
<td>Director of Marketing and Communications, College of Engineering and Computer Science, University of Central Florida</td>
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<td>Cathrine Linnes</td>
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<td>Technology Innovation Seminar</td>
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<td>JetBrains Developer Advocate</td>
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<td>Fredrik Niemelä</td>
<td>2017 World Finals Contest Control System</td>
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<td>Niyaz Nigmatullin</td>
<td>ICPC Live</td>
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Africa and the Middle East
Contest Directors

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Levant Area Chair
Mousa Alrefaeh
Palestinian Collegiate Programming Contest West Bank
Contest - Director
Faisal Abu Khzam
Lebanese Collegiate Programming Contest - Director
Mohammed Al-Badawi
Oman Collegiate Programming Contest – Director
Jafar Alkheir
Syrian Collegiate Programming Contest Director

Youssef Alaoai
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Adel Bouhoula
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Sidi Ali Maelainin
Maghreb Area Chair

Africa and the Middle East
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Arab Collegiate Programming Contest - ERCD Assistant in Damascus
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Arab Collegiate Programming Contest Deputy Media Director
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Yomna Darwich
Arab Collegiate Programming Contest Guest Relations - Director
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Arab Collegiate Programming Contest - Director of Logistical Operations
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Arab Collegiate Programming Contest - Deputy System Administrator
Asmae El Mahdi
Arab Collegiate Programming Contest - Maghreb Area Coordinator
Ahmad El-sayed
Arab Collegiate Programming Contest - System Administrator

Hesham Mahmoud
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Gulf Area Representative
Omar Ossama
Egyptian Collegiate Programming Contest - ERCD Assistant
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Mohmed Soltan
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General Director of ISUTIC
Asia
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Asia Kabul Director
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Asia Kharagpur Director
NingJiang Chen
Asia NanNing Director
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Asia India-Final Director & Asia Super-regional Associate Director
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Asia Super-Regional Contests Director
Katsuhiko Kakehi
Asia Super-Region Associate Director
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Khine Moe Nwe
Asia Yangon Director
Viet Ngo
Asia Ho Chi Minh City Director
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Asia Hua-Lien Director
Wenxin Li
China - Final Director & Beijing Delegation
Yen Lina Prasetio
Asia Jakarta Director
Anand Sheno
Asia Amritapuri Associate Director & Kochi Delegation
Jessica Sugay
Asia Manila Associate Director
Kazuhiro Yamashima
Asia Tsukuba Associate Director
Wei Xu
Asia Shanghai Senior Advisor & Asia Super-Regional Associate Director
D. Venkata Subramanian
Asia Chennai Director *
Xu Xu
Asia Shanghai Honor Director & VP of ShU
Lizhi Zhang
Asia Shenyang Director
Xuehui Zhang
Asia Qingdao Associate Director
Hamid Zarrabi-Zadeh
Asia Tehran Associate Director

Asia
Contest Support

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Amarin Deemagarn
Asia Thailand Committee Advisor and 2016 World Finals Deputy Director
Bilkis Jamal Ferdosi
Asia Dhaka Coordinator
Aijun Gu
Asia Shanghai Coordinator
Abul Haque
Asia Dhaka Associate Director
Dawei Hu
Shanghai Associate Director
Kiyoshi Ishihata
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Europe Vinnytsia Site Director & Ukraine Delegation

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Southeastern Europe Contest – Director

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Northwestern Europe Regional Contest - Director

Rachid Hourizi
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Europe CTU Open - Organizer

Jan Kubr
Europe CTU Open - Director
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NEERC Eastern Subregional  
Contest - Director  
Gennadii Desiatkov  
NEERC Kyrgyzstan Subregional  
Contest - Director  
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Contest - Director  
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Contest - Director  
Georgiy Korneev  
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Site - Director  
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Contest - Director  
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Contest - Director  
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Federation Contests - Director  
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Contest - Director  
Mikhail Royak  
NEERC West Siberian Subregional  
Contest - Director  
Vladimir Sharov  
NEERC Central Subregional  
Contest - Director  
Aliaksei Tolstsikau  
NEERC Western Subregional -  
Deputy Director  
Sergey Videnin  
NEERC East Siberian Subregional  
Contest - Director  
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NEERC Georgia Subregional Trans-  
Caucasian Site - Director

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Northeastern Europe Contest Support

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NEERC Southern Subregional  
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Sergey Volchenkov  
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Judge  
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Assistant of NEERC Trans-  
Caucasian Site Director
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Latin America/Mexico and Central America - El Salvador Contest - Director

Ricardo Anido
Latin America Contests - Deputy Super-Regional Director and Problem Committee - Director

Rodrigo Cardoso
Latin America/South America/North Contest - Director and Colombia Contest - Director

Ricardo Dahab
Latin America Contests - Super-Regional Contest - Director

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Latin America/Mexico and Central America - Director and Mexico Contest - Director

Carlos Ferreira
Latin America/Brazil Contest - Director

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Latin America/Mexico and Central America - Deputy Director MCA

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Latin America/South America/North - Venezuela Contest - Director

Viktor Khlebnikov
Latin America/South America/South - Director and Peru Contest - Director

Irene Loiseau
Latin America/South America/South - Argentina Contest - Director

Federico Meza
Latin America/South America/South - Chile Contest - Director

Willmar Alex Pimentel Sossa
Latin America/South America/South - Bolivia Contest - Director

Ana Maria Portocarrero
Latin America/South America/South - Peru Assistant Contest - Director

Eddy Ramirez
Latin America/Mexico and Central America - Costa Rica Contest - Director

Dovier Antonio Ripoll Mendez
Latin America/Caribbean Contest - Director

Latin America
Contest Support

Roberto Abreu
Latin America/Caribbean Contest - Executive Director at DOM/PUCMM

Fabio Avellaneda-Pachon
Latin America/South America/North - Panama Chief Judge

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Latin America/Caribbean Contest - Executive Director at UCNE

Beatriz Caicedo
Latin America/South America/North - Colombia Contest Org. and Logistics Director

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Latin America/Caribbean Assistant Director at UHO

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Latin America/South America/South - Argentina Staff Member

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Rafael Garcia
Latin America/South America/North - Chief Judge

Sandra Margarita Garcia Herreros
Latin America/South America/North - Logistics/Colombia

Maria Heneide Garrido Rangel
Latin America/South America/North - Venezuela Staff Member

Tomás Orlando Junco Vázquez
Latin America/Caribbean Contest - Assistant Director at CUB

Gabriela Lamas Oliva
Latin America/Mexico and Central America - Assistant to Mexico Contest Director
Oscar Eduardo Macías Aguilar  
Latin America/Mexico and Central America - Systems MCA

Ramón Morales  
Latin America/Caribbean Contest - Assistant Director at UCI

David Morales Orozco  
Latin America/Mexico and Central America - Site ITSUR Grand Prix MCA

Miriam Nicado García  
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Leandro William Osorio Gámez  
Latin America/Caribbean - Executive Director at UHO

Daniel Otero Baguer  
Latin America/Caribbean - Assistant Director at UH

Claudia Permuy Díaz  
Latin America/Caribbean - Executive Director at UPR

Cassio Polpo de Campos  
Latin America Contests - BOCA System Administrator

Federico Pousa  
Latin America/South America/South - Argentina Staff Member

Jeferson David Reyes Chirino  
Latin America/South America/North - Venezuela Staff Member

Bruno Ribas  
Latin America/Brazil - Systems

Camilo Rocha  
Latin America/South America/North - Systems/Colombia

Yanet Rodríguez Sarabia  
Dean at UCLV; Member of the 2017 Caribbean Finals - Cuban Site Organizing Committee; Member of Havana Delegation

Guillermo Solis  
Latin America/South America/North - Webmaster and Panama Contest Director and 2017 RCDS Assistant

Alejandro Strejilevich de Loma  
Latin America Contests - Problem Committee

Pedro Taveras  
Latin America/Caribbean - PUCMM Dean of the Engineering Sciences Faculty

Jorge Terán  
Latin America/South America/South - Bolivia Chief Judge

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Latin America/Caribbean - Assistant Director at INTEC

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North America Pacific Northwest - Director

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North America East Central - Director

Warren MacEvoy
North America Rocky Mountain - Director

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North America Greater New York - Director

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North America Southern California - Director

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North America South Central USA - Director, ICPC Chief Deputy

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North America South Central USA - Director, ICPC Chief Deputy

North America
Contest Support

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North America Mid-Atlantic - Assistant Director

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Volunteer - City of Rapid City

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Richard Miller  
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Volunteer - City of Rapid City

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Terry Smith  
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Volunteer - Innovative Systems Inc.

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Volunteer

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Volunteer - City of Rapid City

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Volunteer - Black Hills Energy

Justin Toennies  
Volunteer

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Volunteer - Black Hills State University

Melinda Trolinger  
Volunteer - Black Hills Energy

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Volunteer

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Volunteer - Black Hills Energy

Trevor Wendt  
Volunteer - Black Hills Energy

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Volunteer

Audrey White  
Volunteer

Matt Whitelock  
Volunteer - Airport

Steve Wiederrich  
Volunteer - SDSM&T Alumni

Linda Wiley  
Volunteer

Dustin Willett  
Volunteer - Rapid City Fire Dept.

Janice Winegar  
Volunteer

Deb Wixon  
Volunteer - Black Hills Energy

Kelly Wolfe  
Volunteer - Black Hills Energy

Kelly Wrede  
Volunteer - Black Hills Energy

Tyler Wulf  
Volunteer - Black Hills Energy

Dave Yuhas  
Volunteer - City of Rapid City

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